

# **EURADOS Intercomparison 2008 for Whole Body Dosemeters in Photon Fields**

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# Content

<b>Content:</b> .....	<b>v</b>
<b>Abstract</b> .....	<b>vii</b>
<b>1 Introduction</b> .....	<b>1</b>
<b>2 Outline of the Eurados Intercomparison 2008 project</b> .....	<b>1</b>
2.1 Project proposal .....	1
2.2 Scope .....	2
2.3 Project set-up and phases.....	3
2.4 Irradiation plan.....	5
2.5 Participants.....	6
2.6 Intercomparison procedure compared to ISO14146 .....	9
2.7 Execution of the irradiations .....	10
2.8 Background and transit dose control .....	11
2.9 Confidentiality of the data and the results .....	12
2.10 Eurados Certificates of Participation and Participants Meeting.....	13
<b>3 Results and Discussion</b> .....	<b>14</b>
3.1 Review of the comments received from participants .....	14
3.2 Basic statistical results .....	14
3.3 Distribution of response values .....	16
3.4 Response values per radiation quality.....	18
3.5 Response values for different TLD detector materials .....	22
3.6 Angular response at N60.....	23
3.7 Performance in mixed fields .....	24
3.8 Reproducibility .....	24
3.9 Linearity.....	26
3.10 Response values as a function of reference doses.....	27
3.11 Outliers .....	30
3.12 Results for individual systems .....	31
3.13 Non irradiated dosimeters .....	32
<b>Conclusions</b> .....	<b>33</b>
<b>4 References</b> .....	<b>34</b>
<b>5 Appendix A: Time schedule</b> .....	<b>35</b>
<b>6 Appendix B: List of participants</b> .....	<b>36</b>
<b>7 Appendix C: Example irradiation certificate</b> .....	<b>38</b>
<b>8 Appendix D: Example “Certificate of Participation”</b> .....	<b>40</b>
<b>9 Appendix E: Datasheets with results for individual participants</b> .....	<b>43</b>





## Abstract

Eurados working group 2 has developed a system for self-sustained intercomparison exercises for individual monitoring services for external radiation (Figel, M. Report to Council, WG02-SG2, 2007). As a result the first intercomparison exercise was carried out in 2008 (IC2008), for whole body dosimeters in photon fields with 62 participating dosimetry systems from participants across Europe. The IC2008 was organized by an organization group composed by Tom Grimbergen from NRG (co-ordinator and co-ordinating laboratory), Andrew McWhan (Babcock Int, at the time VT, plc), Ana Maria Romero (CIEMAT), Hannes Stadtmann (Seibersdorf Laboratories) and Markus Figel (Helmholtz Zentrum München), who shared all necessary tasks of the exercise.

A total of 1612 dosimeters were processed by the coordinator. A metrology laboratory accredited according to EN ISO/IEC 17025 was contracted to irradiate the dosimeters according to the irradiation plan developed by the Organizing Group. The entire exercise was performed without any external funding with all costs being covered by the participants' fees.

In general, the participants showed a very satisfactory performance with only 7% outliers from the total reported values. Film systems show the largest deviations, although the results of some participants indicate that it is possible for film services to achieve results similar in quality to TLD systems. The median of all response values was very close to unity. This finding confirms that in general the calibration procedures, especially the traceability to standard dosimetry laboratories works fine without any general bias. However, the results show also that a number of services could improve the quality of their systems by improving the calibration of their systems.

Additional information specific to the tested systems and provided by the participants for statistical analysis allowed more detailed analysis of the results with respect to different parameters, e.g. dosimeter type, detector material, and other design parameters. The influence of such parameters on the response values of the dosimeters was studied and discussed. Mixed fields generally did not cause problems for the participating dosimetry systems.

With the aid of the intercomparison results the participants can show compliance within their quality management system, compare their results with those from other participants and develop action plans for improvement of their system. The high number of participants confirms that there is significant demand for international intercomparisons exercises and that these are of operational value for individual monitoring services.

IC2008 was the first Eurados organized intercomparison exercise. Following the success of the IC2008, IC2009 for extremity dosimeters in beta and photon fields and IC2010 on whole body dosimeters for photon fields were organized and are presently complete. IC2009 and IC2010 will be addressed in dedicated Eurados reports.



## 1 Introduction

Eurados working groups on Harmonisation of Individual Monitoring in Europe (1997-2000 [1,2], 2001-2004 [3]) have shown that intercomparison exercises (ICs) are a fundamental prerequisite for harmonisation of individual monitoring services (IMS). Consequently, these Eurados working groups recommended periodic performance tests or IC exercises within the European Union (EU) and Switzerland to assist the objective of harmonisation. It was believed that ICs would stimulate IMS to improve the quality of their results, provide information on IMS quality throughout EU and assist harmonisation of IMS quality control standards. Further support was provided by the response to questionnaires sent to IMS in the EU and non EU countries which showed very strong interest in participating in the proposed programme of periodic ICs.

Participation in regular ICs is now specifically recommended in the new European Commission's Technical Recommendations for Monitoring Individuals Occupationally Exposed to External Radiation [4]. A more recent development is that in some countries participation in IC exercises is now being considered as an essential criterion for IMS approval by authorities. Moreover, IMS are gradually feeling the need to become accredited in compliance with the EN ISO/IEC 17025 standard [5] in most countries. Conformity with the ISO 17025 requires the participation in regular inter laboratory comparisons. As a result of these expressions of interest, Eurados decided in 2005-2006 to investigate the possibility of organizing a programme of self-sustained ICs. and further decided to organize its first IC within the framework of Eurados.

The first Eurados IC, IC2008 for whole body dosemeters in photon fields has now been completed. The entire exercise was performed without any external funding with all costs being covered by the participants' fees.

This report describes the set-up of the IC project and gives an extended overview of the results.

## 2 Outline of the Eurados Intercomparison 2008 project

### 2.1 Project proposal

The organizational structure for the Eurados programme for self-sustained ICs for IMS, including this first IC in the programme, was laid down in the report of Working Group 2 (WG2) Subgroup 2 which was presented to the Eurados Council at the annual meeting 2007 [6]. This WG2 report provided extensive plans for a self-sustained IC programme including detailed proposals for organization and financial aspects. In summary, the Subgroup proposed to set up the organization as shown in Figure 1. The key feature is the OG appointed by Eurados Council. This group would prepare, manage and control all planning and operational details of the ICs. This would include all materials and data transfer between the participating IMS and the irradiation facilities (SSDL or PSDL) performing the irradiations. For efficiency reasons, the OG was limited to a relatively small number of persons. However, this also assisted control of confidentiality as the information would be handled by a limited number of persons..

For the first IC the OG was formed by the authors of this report, with NRG (the Netherlands) acting as the coordinating institute.

## Organization Structure

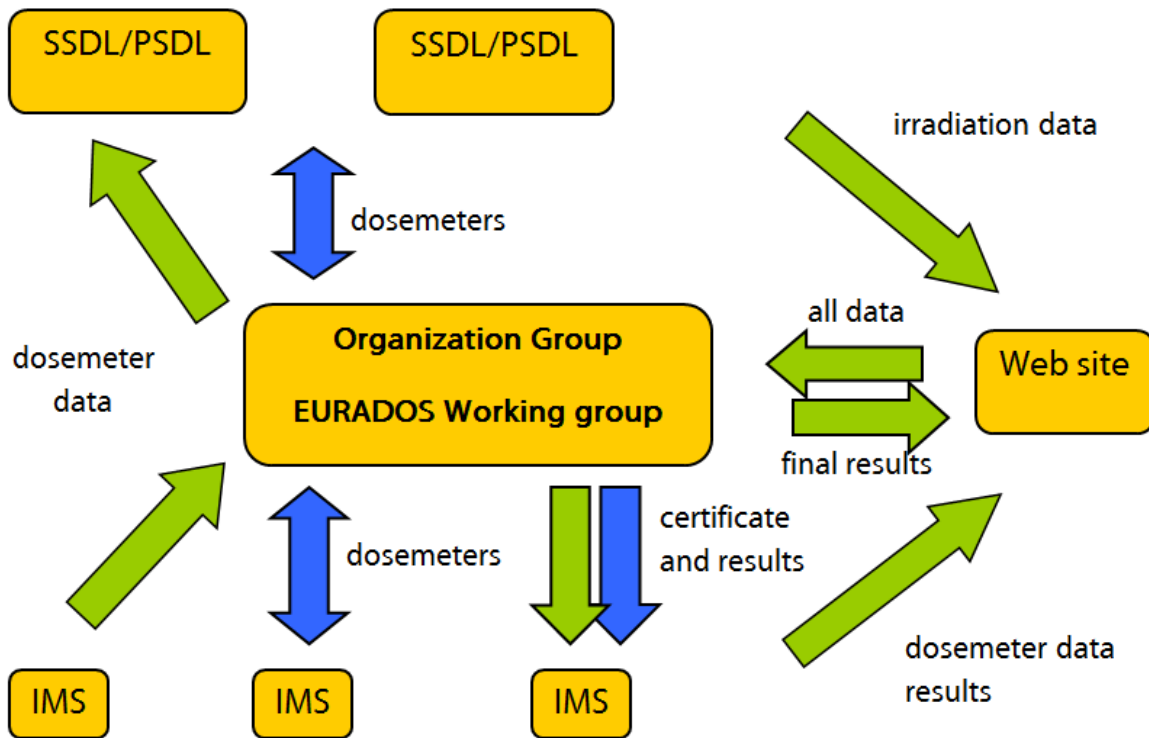


Figure1. Setup of the intercomparison

## 2.2 Scope

According to the programme proposal the IC scope would change for each exercise. For the first three years, the following programme was proposed:

- > 2008 whole body dosimeters in photon fields
- > 2009 extremity dosimeters for beta – photon fields
- > 2010 second whole body dosimeters in photon and neutron ICs

The programme did start according to this proposal with the first IC in 2008 for whole body dosimeters in photon fields. In the original proposal the quantity to be measured was  $H_p(10)$ , but in the final plan it was decided to include the option for IMS to report both  $H_p(10)$  and  $H_p(0.07)$ . The IC was aimed at dosimeters used routinely in individual monitoring of exposed workers.

In order to keep the first IC relatively simple to manage the OG drew up a basic irradiation plan which was restricted to photons.

## 2.3 Project set-up and phases

For IC 2008 four main phases can be defined, ie :

- 1) preparation
- 2) participant applications
- 3) execution
- 4) reporting

In the preparation phase the OG decided on the scope, the irradiation plan, a provisional budget and the time schedule. After these details had been established, a suitable irradiation facility had to be identified. This was achieved by approaching a limited number of institutes for formal quotations. These quotes were evaluated for quality and availability. All of the institutes selected from the shortlist fulfilled the minimum quality criteria (ISO 17025 accreditation and also availability). The Eurados Council decided, in accordance with the protocol contained in the OG proposal, to take an option on the one offering the lowest price.

Terms and conditions for the participants were then established with limits set for maximum and minimum number of participants. The Eurados Council approved the budget and gave formal approval to the OG to proceed with IC2008.

During the participant application phase the IC exercise was formally announced on the Eurados website assisted by direct emailing of the announcement to IMS known to WG2. Candidate participants were invited to fill in the Application Form. On receipt of the completed Application Forms, the Eurados Office sent invoices to the candidate participants. The participants were requested to transfer the participation fee of € 1.250 per participating dosimetry system to the Eurados bank account before May 9<sup>th</sup> 2008. The Organization Group then met and evaluated the status of all the applications. Once it became established that the minimum number of participants had been reached to make the IC financially viable, the decision was made to confirm the purchase order for the irradiations and to continue to the next phase.

The execution phase started with sending all candidate participants a confirmation of participation and a set of instructions. All participants were requested to prepare their dosimeters according to their normal procedures, and to provide the identification codes of the dosimeters to the coordinator using an electronic form (provided by the coordinator). The participants had to dispatch the dosimeters to the coordinating laboratory (NRG Arnhem, Netherlands) following the guidelines before the set deadline. The coordinating laboratory received and registered all dosimeters, and added organization labels to all dosimeters. For each dosimeter, the label added by the coordinator showed the identification number as provided by the participant and a code to be used by the irradiation laboratory. The code to be used by the irradiation laboratory consisted of a number identifying the dosimeter system and a number corresponding to a radiation quality, angle and dose range combination from the irradiation plan. Figure 2 shows an example of a dosimeter with label added by the coordinator. The dosimeters were forwarded to the irradiation laboratory in three separate shipments.



Figure 2. Example of a dosimeter with the label added by the coordinator. "8880001" is the identification code as provided by the participant. "31" is the code to identify the dosimetry system (note: for presentation of the results, a different code was used). "19" is the code to identify a specific radiation quality, angle and dose range combination from the irradiation plan.

Following irradiation the irradiation laboratory returned the dosimeters to the coordinating laboratory where the organization labels were removed and the dosimeters shipped back to the participants. The participants received instructions on reporting their results including an Excel-sheet for digital transfer of the results. After the coordination laboratory received the results of the participants, response values were calculated by combining the results from the participants and the irradiation laboratory. The response values were reported back to all participants individually, with the request to the participant to check and to either confirm or comment on the results.

The OG met again and reviewed all the comments received from the participants on their results. Decisions were made on all of these requests for data amendment and all results were then fixed.

The first task in the reporting phase was to prepare the Certificates of Participation. Then, the participants meeting was prepared to present and discuss the results among the Organization Group and the participants. This meeting was held to coincide with the Eurados Annual Meeting 2009 at the PTB in Braunschweig. The participants present at this meeting received their Certificate of Participation including information on the irradiation qualities, radiation doses, response values and overall uncertainties. The participants who did not attend the meeting received their Certificates of Participation by postal mail. Finally, at the end of the reporting phase it was decided to publish the results in a Eurados report and in the open literature as scientific communications presented at conferences and/or papers published in scientific journals [7].

The IC application and execution phases were completed within one year but that was only part of the story. The OG needed significantly more time, e.g. for preparation and reporting. The main milestones in the time schedule are summarized in Appendix A: Time schedule.

## 2.4 Irradiation plan

Photon irradiation qualities were chosen from ISO4037 [8], including S-Co, S-Cs, N-150 and N-60.

Table 1 summarizes the plan for each dosimetry system.

Table 1: Irradiation plan for the Eurados 2008 intercomparison for whole body dosemeters in photon fields

Quality	nominal $H_p(10)$ (mSv)	number of dosemeters	Dosemeter IDs
<b>N-60</b>	3	2	11, 12
<b>N-60 45°</b>	3	2	17, 18
<b>N-150 45°</b>	3	2	19, 20
<b>N-60 + S-Cs</b>	(3 + 1)	2	13, 14
<b>S-Cs + N-60</b>	(3 + 1)	2	15, 16
<b>S-Cs</b>	0.5	2	1, 2
<b>S-Cs</b>	3	4	3, 4, 5, 6
<b>S-Cs</b>	10	2	7, 8
<b>S-Co</b>	150	2	9, 10
	<b>Total:</b>	20 dosemeters (24 irradiations)	
<b>Background and transit control</b>		2	25, 26
<b>Spare</b>		4	21, 22, 23, 24

For the IC2008 a total of 26 dosemeters from each participant IMS were requested.

The plan aimed at a rough estimation of:

- > bias and the linearity of the participating systems over limited range,
- > reproducibility of the system for identical irradiations,
- > energy and angular dependence,
- > ability to measure the dose in mixed fields of high and low energy photons

The irradiation laboratory was asked to vary the actual values around the nominal values given in the irradiation plan, in order to prevent participants who were participating with two dosimetry systems from guessing doses by comparing the results between their two systems.

To clarify the scope of the IC to the candidate participants, the following information was given in the participant application phase:

*Irradiations, restricted to photons, will be performed in an European accredited irradiation facility in terms of Hp(10) and Hp(0,07) in the following ranges:*

1. *Energy: 30 keV to 1,3 MeV*
2. *Dose: 0,2 mSv to 1 Sv*
3. *Angle of incidence:  $\pm 60^\circ$*

This information was provided in order to give the candidate participants the opportunity to decide if this IC would be suitable for their dosimetry systems.

## 2.5 Participants

52 IMS from 21 European countries participated with a total of 62 dosimetry systems (10 film systems; 46 TLD systems and 6 other systems such as OSL, APD, RPL). Table 2 indicates the number of systems from the different countries.

Table 2: Number of participating systems per country

Country	Number of participating systems per country
Belgium	10
Italy	7
Spain, United Kingdom	6
Finland, Slovenia	3
Austria, France, Germany, IAEA, Poland, Switzerland, The Netherlands, Turkey, Ukraine	2
Bosnia and Herzegovina, Croatia, Denmark, Greece, Ireland, Norway, Portugal, Romania, Serbia	1

A complete list of the participating institutes is given in Appendix B: List of participants.



Figure 3 shows the number of systems per dosimeter type including information on the number of detectors per dosimeter, when available. It can be seen as TLD is the most widely employed dosimetry technique.

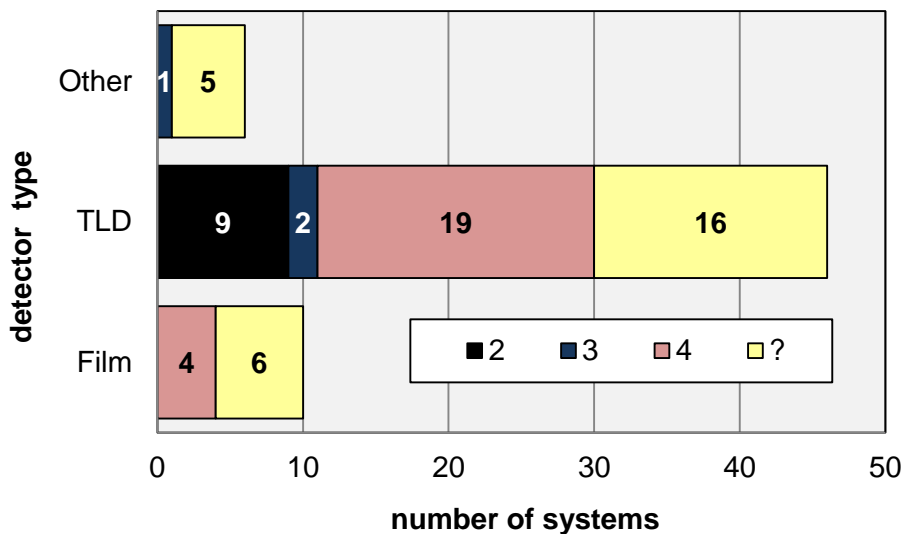


Figure 3: Number of systems per dosimeter type and number of detectors

Figure 4 summarizes the number of systems per detection material for both TLD and Film dosimeters. More than half (63%) of the TLD participants used LiF:Mg,Ti detectors.

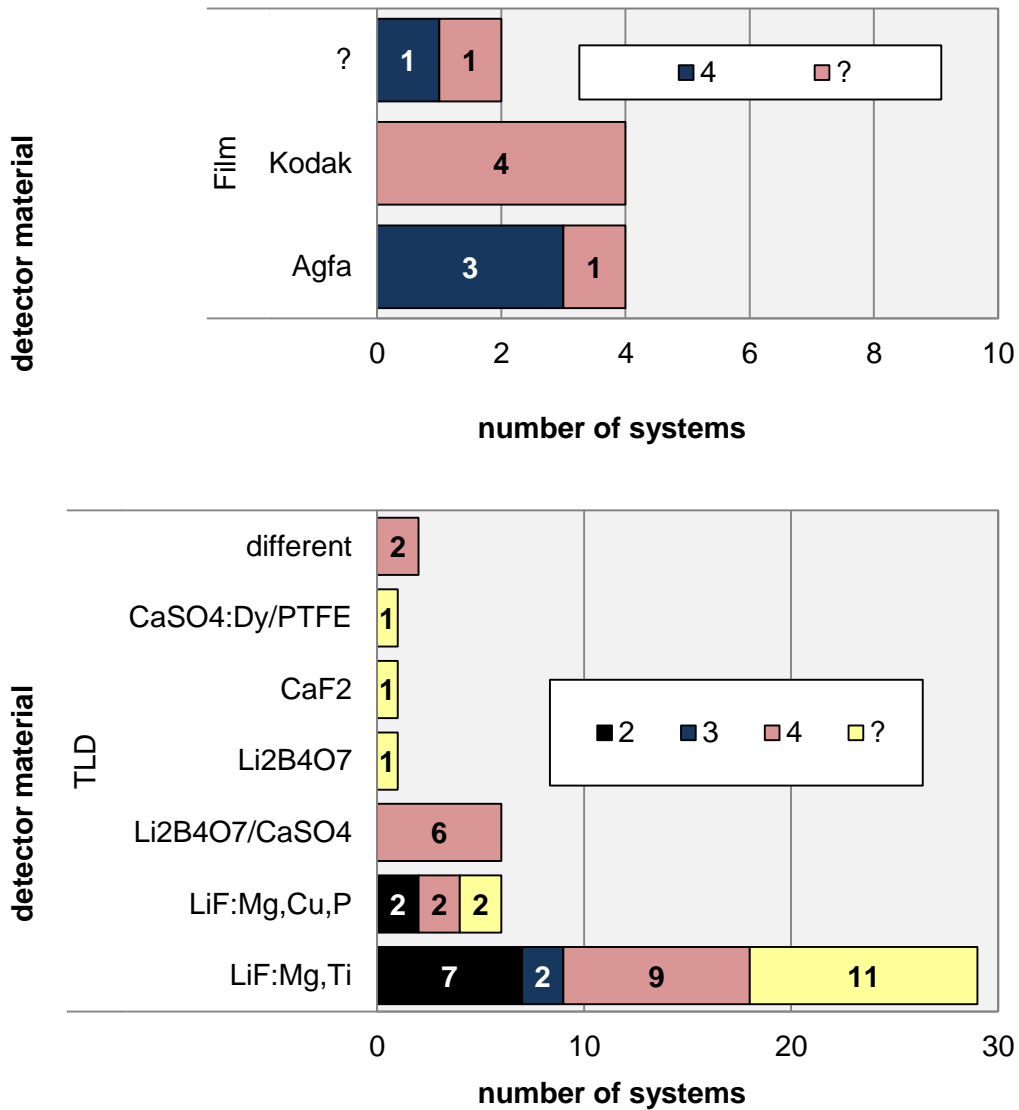


Figure 4: Number of participating systems using different types of film (top) or TLD materials (bottom). Colors in the bars indicate the number of detectors in one dosimeter (? means this information was not given by the participant)

## 2.6 Intercomparison procedure compared to ISO14146

The IC was set up to meet the standard ISO14146 *“Criteria and performance limits for the periodic evaluation of processors of personal dosemeters”* [9] and compliance was reached for the following items:

- > Quantities measured
- > Standard test conditions
- > Maximum accumulated photon radiation background
- > Radiation qualities and angles
- > Dose range
- > Evaluation sample size
- > Number of background and spare dosemeters
- > Evaluation procedure
- > Evaluation sequence

However on some items it was impossible to fulfil the ISO14146 requirements. The main deviations from the standard were:

- > The “evaluating organization” **did not** send a representative *to select the dosemeters and to observe that no special effort is made in processing them, to ensure that the processing of the evaluation dosemeters is carried out in exactly the same way as for the processor's normal customers*
- > No “qualification body” involved (for approving dosimetry services)
  - *The qualification body shall deem competent each processor which is able to show compliance with the performance limits...*
  - *The qualification body shall provide the processor with a certificate which specifies at least the dosimetry system and the period of validity.*

Obviously it is impossible to comply with ISO14146 because an IC deviates from a performance test in a few fundamental and practical aspects.

- > In an IC, there are many participants, and the organizer is not able to visit all these participants.
- > The performance test should be tailored to the specifications of the dosimetry system tested, which may or may not be controlled by national requirements. In an international IC the participating systems may cover a wide range of systems with different specifications for dose and energy ranges covered.
- > For the participants it is very difficult to avoid deviating from routine procedures, e.g. because:
  - the dosemeters have to be sent to a foreign address,
  - the time period the dosemeters leave the service deviates from what is normal,
  - the results have to be prevented from being transferred to registries of radiation workers,
  - the method for the background correction may differ from normal practice.

Since Eurados cannot play the role as “qualification body”, the participant has the responsibility for making their participation in the IC a useful exercise for their IMS, for example for supporting their accreditation process. The participant should record (for their own use) all deviations from routine procedures, and should be able to justify these deviations to their accreditation organization and explain any impact on the results. Therefore it is in the interest of the participant, to restrict these deviations from normal practice to the minimum.

For these reasons Eurados does not provide the participants with any assessment of the individual results but only the ratio between the measured dose and the conventional true value. However, for the analysis of the global results, the performance limits according to ISO 14146, commonly known as “trumpet curves”, were adopted:

$$\frac{1}{F} \left( 1 - \frac{2H_0}{H_0 + H_c} \right) \leq R \leq F \left( 1 + \frac{H_0}{2H_0 + H_c} \right) \quad (1)$$

where,  $F = 1.5$  and  $H_0$  is the “lower limit of the dose range for which the system has been approved”. For this IC  $H_0$  was not tailored to each individual participant. Instead, a value of 0.085 mSv was chosen for  $H_0$  for all participants, assuming a “lower limit of the dose range” of 1 mSv in a year, and an issuing frequency of 12 per year.

The standard ISO 14146 allows a maximum of one-tenth of the dosimeters irradiated to exceed the above limits but, for the analysis of the global results in this report, any result exceeding these limits was considered as an outlier.

## **2.7 Execution of the irradiations**

A total of 1240 dosimeters were irradiated according to the irradiation plan at the dosimetry lab contracted for the IC (GAEC, Greece, accredited according to ISO 17025 by the Hellenic Accreditation Council). All irradiations were performed according to the international standard ISO 4037 Because of the large size of some of the dosimeters, the irradiation laboratory decided to irradiate all dosimeters one by one. All irradiations were performed on the appropriate ISO slab-phantom recommended by the standard. At the request of the coordinator, the irradiation laboratory varied the actual doses around the nominal values given in the irradiation plan. Table 3 and Table 4 show a summary of the actual doses imparted for the different radiation qualities, for  $H_p(10)$  and  $H_p(0.07)$ , respectively.

Table 3: Summary of the actual radiation qualities and doses imparted,  $H_p(10)$

Radiation	Quality	$H_p(10)$ mSv	min mSv	max mSv
X-ray	N60; 0°	2.9	2.1	3.4
	N60; 45°	2.8	2.1	3.6
	N150; 45°	3.0	2.1	3.6
Gamma	S-Cs; 0°	0.5	0.4	0.9
		2.8	2.2	3.6
		9.7	7.0	12.5
	S-Co; 0°	146	105	190
Mixed	N60; 0° + S-Cs; 0°	4.0	3.4	4.4
	S-Cs; 0° + N60; 0°	4.0	2.9	4.8

Table 4: Summary of the actual radiation qualities and doses imparted,  $H_p(0.07)$

Radiation	Quality	$H_p(0.07)$ mSv	min mSv	max mSv
X-ray	N60; 0°	2.7	2.0	3.2
	N60; 45°	2.8	2.1	3.7
	N150; 45°	3.0	2.1	3.5
Gamma	S-Cs; 0°	0.5	0.4	0.9
		2.8	2.2	3.6
		9.7	7.0	12.5
	S-Co; 0°	146	105	190
Mixed	N60; 0° + S-Cs; 0°	3.8	3.2	4.2
	S-Cs; 0° + N60; 0°	3.9	2.9	4.7

The laboratory reported the irradiation data to the coordinating laboratory by means of irradiation certificates (see Appendix C: Example irradiation certificate).

## 2.8 Background and transit dose control

For each dosimetry system two dosimeters were reserved as “background and transit dose control” dosimeters to allow for background and transfer dose corrections. In addition, four dosimeters were assigned as “spare” dosimeters to be used by the irradiation laboratory in case of damage or errors with the irradiations. Only a few spare dosimeters had to be used for this purpose.

The dosimeters were sent in three separate shipments to the irradiation facility. Each shipment contained an active personal dosimeter added by the coordinator to detect possible additional irradiations during shipment between the coordinator and irradiation laboratory.

The organizer provided the participants with the identification codes of the two “background and transit dose control” dosimeters (see Table 1), but did not provide the codes of the unused “Spare” dosimeters. The participants were instructed to evaluate the dosimeters according to the normal routine procedures as far as possible. The participants reported the results back to the coordinator in terms of  $H_p(10)$  and/or  $H_p(0.07)$ .

## 2.9 Confidentiality of the data and the results

The data processed by the OG had to be treated confidentially for two specific reasons. Firstly, the IC was designed to be a blind test for all the participants. This meant that all participants had to report their results without knowing the details of the irradiation plan, in particular the dose values. The dose values were reported to the participants only *after* the coordinator had received the dose values evaluated by the participant. At the time of application for the IC, only the ranges of dose, energies and angles were known to the participants. Direct communication between participants and irradiation facilities was not allowed and the coordinator transferred all necessary information between participants and irradiation laboratories. It was known that some IMS would participate with more than one dosimetry system and it was also considered that some IMS might have access to results of other participants. In order to prevent these participants guessing dose values by combining results, the irradiation plan was executed in a random order for each participant. In addition, the irradiation laboratory varied the dose values in the irradiation plan within specified ranges from participant to participant, rather than using fixed dose values for each radiation quality.

Secondly, the individual results are the property of the participants only and thus have to be kept confidential. To assure this confidentiality the coordinator separated all information which could possibly lead to the identity of the participants from the published results. In the overviews of the results the participating dosimetry systems are only referenced by a randomized code. The link between this code and the participant’s identity is only known by the coordinator. All participants received their own code to be able to look up their own results in the overviews.

During the IC exercises significant quantities of data had to be exchanged. In order to assure data integrity it was decided to use parallel data streams. All official results were reported on signed papers. In parallel data was exchanged in electronic formats for efficient processing and to prevent typographic errors. In case of any ambiguity the data on the signed papers was taken as “true”.

## 2.10 Eurados Certificates of Participation and Participants Meeting

Since Eurados itself is not accredited for the evaluation of IMS, the results issued by Eurados itself cannot be regarded as an official test report. As an alternative, it was decided to report back the results to the individual participants in the form of a "Certificate of Participation", with the irradiation reports of the accredited irradiation laboratories as an annex.

These certificates consisted of three pages. The front page shows the certificate number, the details of the participant and the description of the system as given by the participant, and a summary of the IC procedure. The front page was signed by both the Eurados Chairperson and the IC coordinator. The second page shows a list of dosimeter id numbers as used by the coordinator, related to the dosimeter id codes as given by the participant. The third page shows the actual results: for each dosimeter (coordinator's id), irradiation quality, value of  $H_p(10)$  as reported by participant, value of  $H_p(10)$  as reported by the irradiation laboratory, and the ratio of these two values. In addition, the same three quantities for  $H_p(0.07)$  were reported in case the participant chose the report  $H_p(0.07)$  values. In the Certificates, no performance limits were indicated because these might differ from one participant to the other (see Appendix D: Example "Certificate of Participation").

In the reporting phase the coordinator prepared the Certificates of Participation. Next the OG prepared a participants meeting, coinciding with the Eurados 2009 Annual Meeting, held in Braunschweig, to show and discuss the results among the OG and the participants. At this meeting the participants received their Certificate of Participation including information on the irradiation qualities, doses imparted, response values and overall uncertainties.

## 3 Results and Discussion

### 3.1 Review of the comments received from participants

After sending the draft results to the participants, comments were received from 20 participants. These comments included:

- a few requests for change of the results after revision of the participant's calibration procedures,
- a few requests for changing or leaving out results for specific radiation qualities,
- questions about the irradiation conditions (e.g. use of build-up),
- requests for revision of results because of errors made by the participant during evaluation.

None of the requests above were considered to justify revising any of the results. Therefore the OG decided to leave all results unchanged.

Furthermore, some participants submitted requests for change of results after revision of the corrections for background and transit dose. The OG acknowledged that the instructions for the participants could have included more specific detail for the corrections for background and transit dose. In particular, some participants did not understand the purpose of the two background control dosimeters and the unirradiated spare dosimeters. After discussion within the OG it was concluded that these misunderstandings could only have led to very small deviations which would not have caused any significant impact on the general results and that participants could easily explain the small deviations in the low dose region in their own evaluations by pointing out the different approaches for background dose correction. Therefore the OG decided to leave these results unchanged.

Three participants independently reported problems with the N60-45° quality (one dosimeter seemed to be not irradiated or with only half the dose). The irradiation laboratory was asked to double check their results but found no reasons to doubt their procedures and results. Therefore the OG decided to leave these results unchanged.

In one particular case the participant suggested that the irradiation data for two dosimeters must have been interchanged. The participant added convincing proof that the chance of interchanging the participants' results for the two dosimeters was very small. OG concluded that two dosimeters must have been interchanged, either by the organization or by the irradiation laboratory. These were the only results which were corrected.

### 3.2 Basic statistical results

The numerical results of this IC are reported as response ratios, where the response  $R$  is defined as:

$$R = \frac{H_{p,participant}}{H_{p,reference}} \quad (2)$$



Table 5 shows the total number of values reported for both quantities  $H_p(10)$  and  $H_p(0.07)$ , together with estimates for the central value of the distribution of response values (arithmetic and geometric mean, median value) and measures for the spread in the response values (standard deviation, 2.5th and 97.5th percentiles).

Table 5: Total number of values reported for  $H_p(10)$  and  $H_p(0.07)$ , and some statistical quantities indicating the central values and spread of the results

	$H_p(10)$	$H_p(0.07)$
Number of reported values	1229	951
	$R$	$R$
Arithmetic mean	0.99	1.04
Geometric mean	0.94	0.99
Median	0.98	0.98
Standard deviation	0.30	0.52
2.5 <sup>th</sup> -percentile	0.55	0.59
97.5 <sup>th</sup> percentile	1.48	1.79

For more than 99% of the irradiated dosimeters, values for  $H_p(10)$  were reported, while for  $H_p(0.07)$  participants reported no values in about 25% of the cases. Both for  $H_p(10)$  and for  $H_p(0.07)$  the estimates of the central value were all close to unity.

The spread in the values for  $H_p(10)$  was smaller than that for  $H_p(0.07)$ , standard deviations amounting to 0.30 and 0.52, respectively.

From the percentiles the 95% coverage intervals of the responses for all participants together can be derived: this was 0.55 – 1.48 for  $H_p(10)$  and 0.59 – 1.79 for  $H_p(0.07)$ .

### 3.3 Distribution of response values

Figure 5 shows the frequency distributions and the cumulative distributions of all response values. For  $H_p(10)$  values ranged from 0.02 to 4.5 (outside the range of the figure), while for  $H_p(0.07)$  the values ranged from 0.07 to 9.5 (outside the range of the figure).

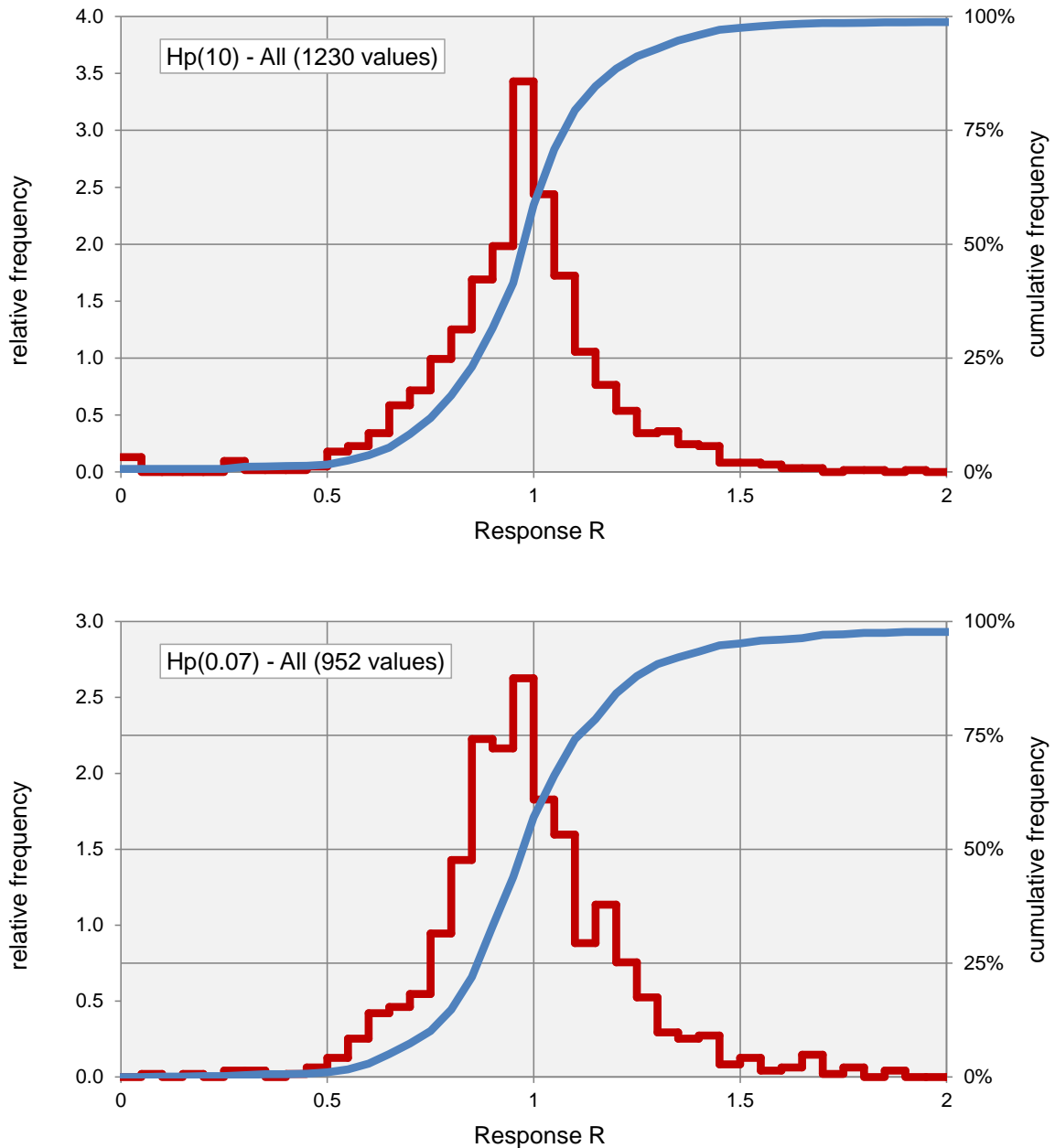


Figure 5: Frequency distributions and the cumulative distributions of all response values. Top:  $H_p(10)$ ; bottom:  $H_p(0.07)$ . Some values were out of the range of the x-axis.

Figure 6 shows the same results, but subdivided per type of system.

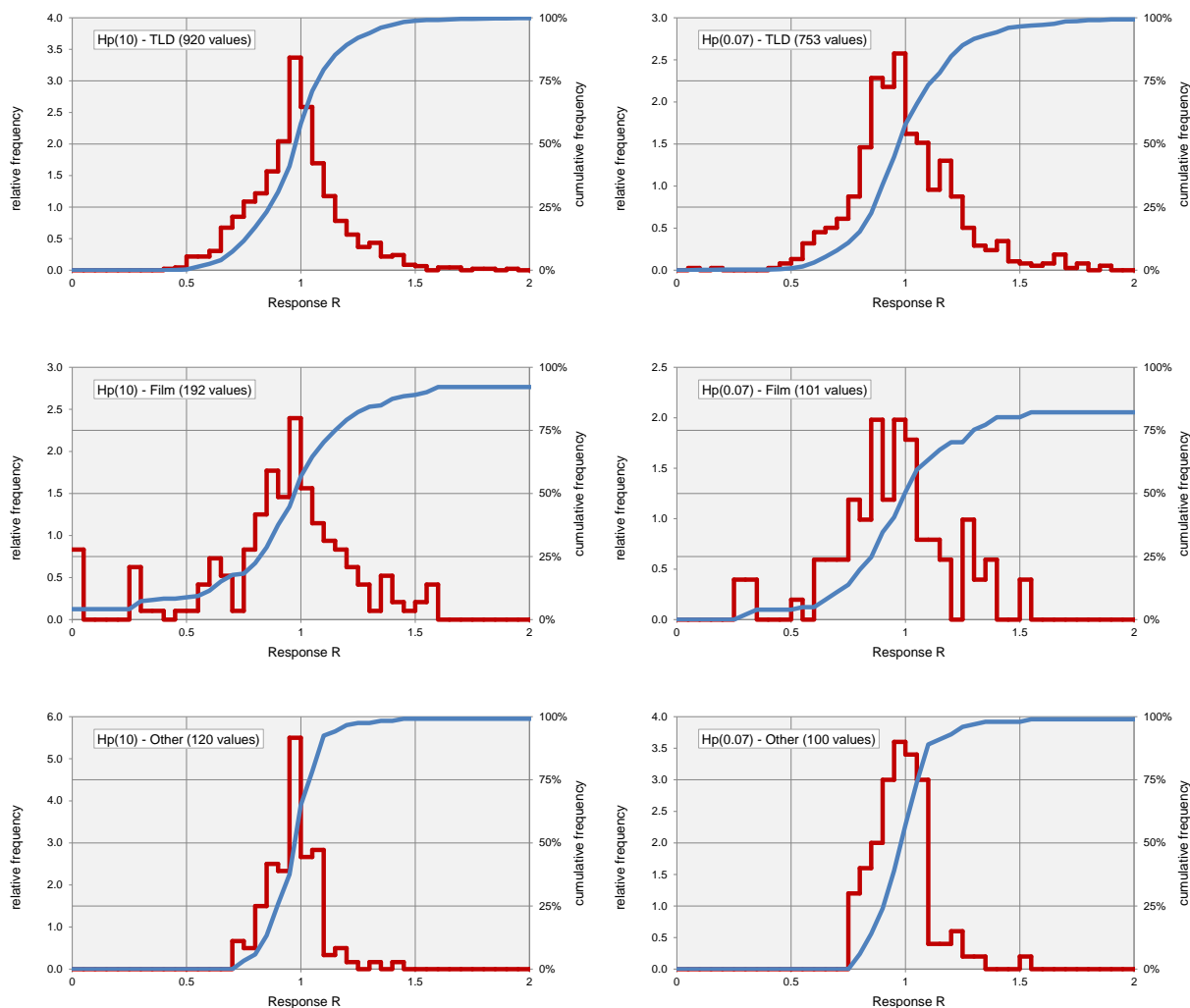


Figure 6: Frequency distributions and the cumulative distributions of all response values. From top to bottom: different types of dosimetry systems (top: TLD-systems; middle: film systems; bottom: other systems). Left:  $H_p(10)$ ; right:  $H_p(0.07)$ . Some values were out of the range of the x-axis.

### 3.4 Response values per radiation quality

Subdividing of the results per radiation quality results in Figure 7 and Figure 8 where the distribution of  $H_p(10)$  and  $H_p(0.07)$  results is expressed in the diagrams by the median value (diamond), the 50% range (box), the 90% range (bar) and the maximum and minimum values (dots).

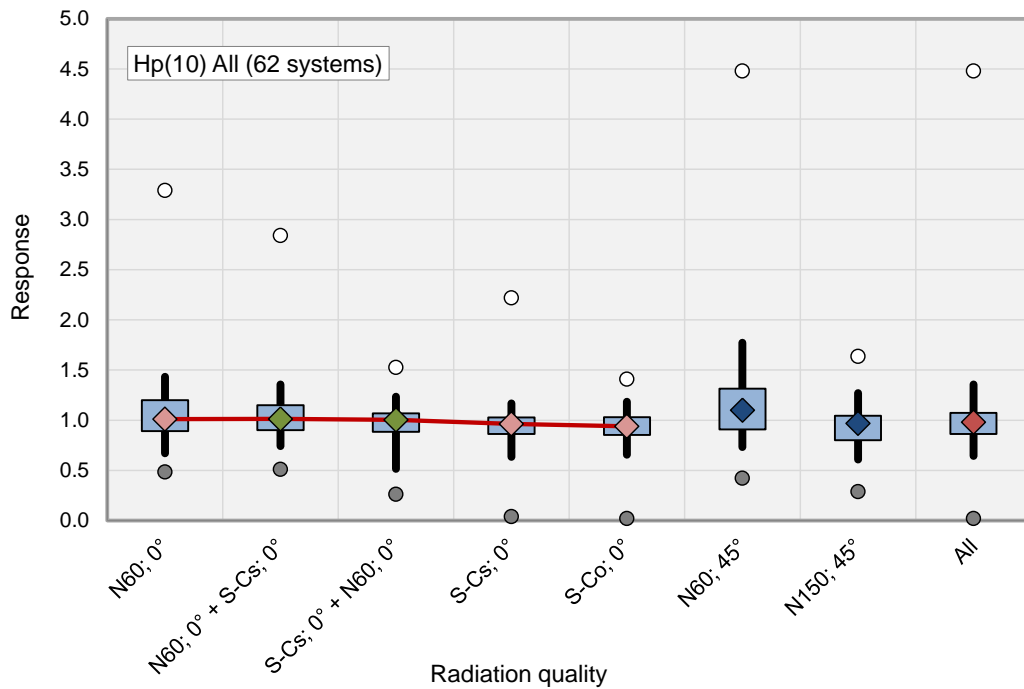


Figure 7. Distributions of all  $H_p(10)$  response values for different radiation qualities. Diamond (Median), Box (50% range), bar (90% range), Dots (minimum, maximum).

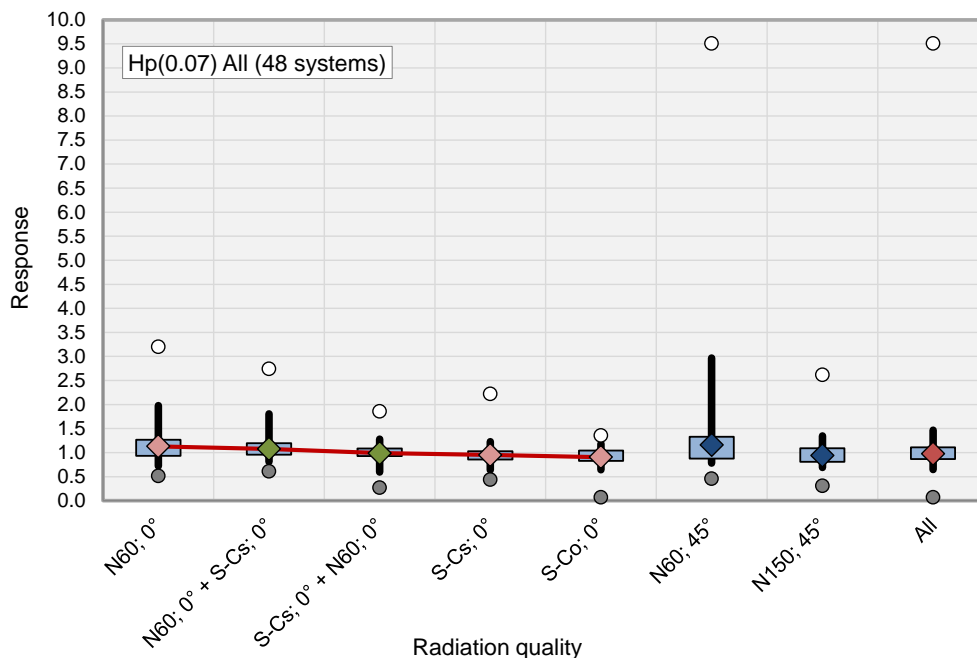


Figure 8. Distributions of all  $H_p(0,07)$  response values for different radiation qualities. Diamond (Median), Box (50% range), bar (90% range), Dots (minimum, maximum).

Figure 7 summarises the results for the dose quantity  $H_p(10)$  for the different irradiation categories for all systems. The median of all response values of all systems for all radiations (furthest right bar in the diagram) is close to 1. In most cases (90% bar) the response values for  $H_p(10)$  are within an acceptable range (0.7 to 1.5). A pronounced over response for many systems is obvious only for 45° irradiations with the low energy photons (N60, filtered 60 kV x-ray radiation). The extreme values for all qualities cover the range from <0.1 to 4.5. Due to the low number of systems in the category "other", these systems, including APD, OSL and glass dosimeters, were excluded from the detailed analysis. None of the qualities shows a clear bias. Nevertheless it is clear that the N60 qualities (0° and 45°) show the largest spread of response values. Figure 8 shows the same type of results, but for the dose quantity  $H_p(0.07)$ .

Figure 9 and Figure 10 show the same results, but subdivided per type of system. This subdivision makes clear that the deviations for N60 are mainly caused by film systems. Apart for the larger spread of response values for film systems, the results suggest an overall bias larger than 1 for these systems for low photon energies, and smaller than one for high photon energies. Contrarily, the systems in the category "other" show a small spread and no bias for the energy range tested.

The comparison between TLD and film systems in Figure 9 shows a pronounced difference between the spread of response values for these two dosimeter types. The wide range of extreme values in Figure 7 is mainly caused by the film dosimeters. However comparing the 50% boxes of both types (TLD and film) gives quite similar results. These results show that the performance of good film dosimeters is compatible with the performance of good TLD's. For lower energy photons (only N60 was tested) film dosimeters tend to show an over response. Mixed radiation fields however do not show pronounced problems for both types.

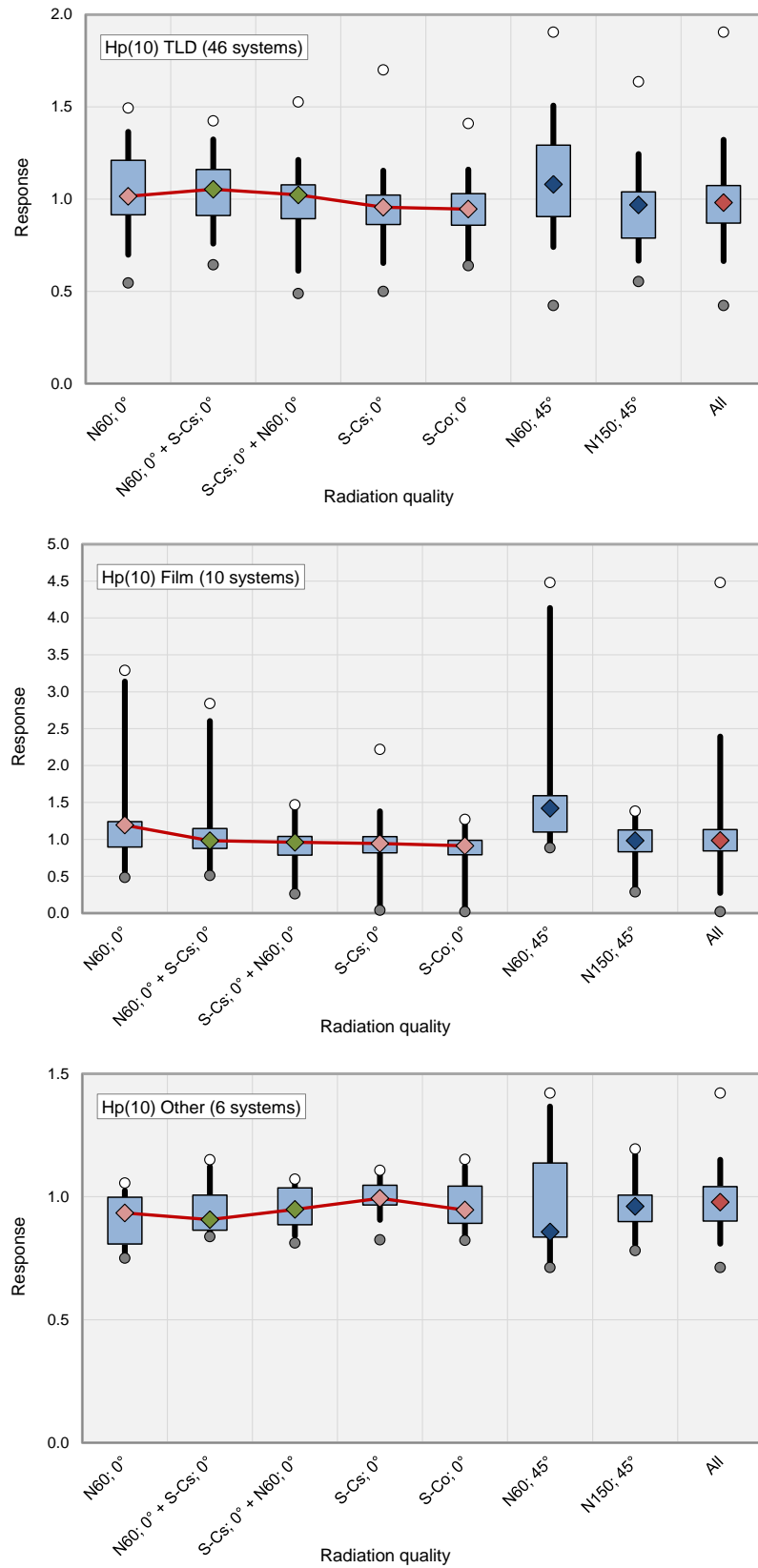


Figure 9. Distributions of all  $H_p(10)$  response values for different systems; TLD (top), Film (middle) and Other (bottom).

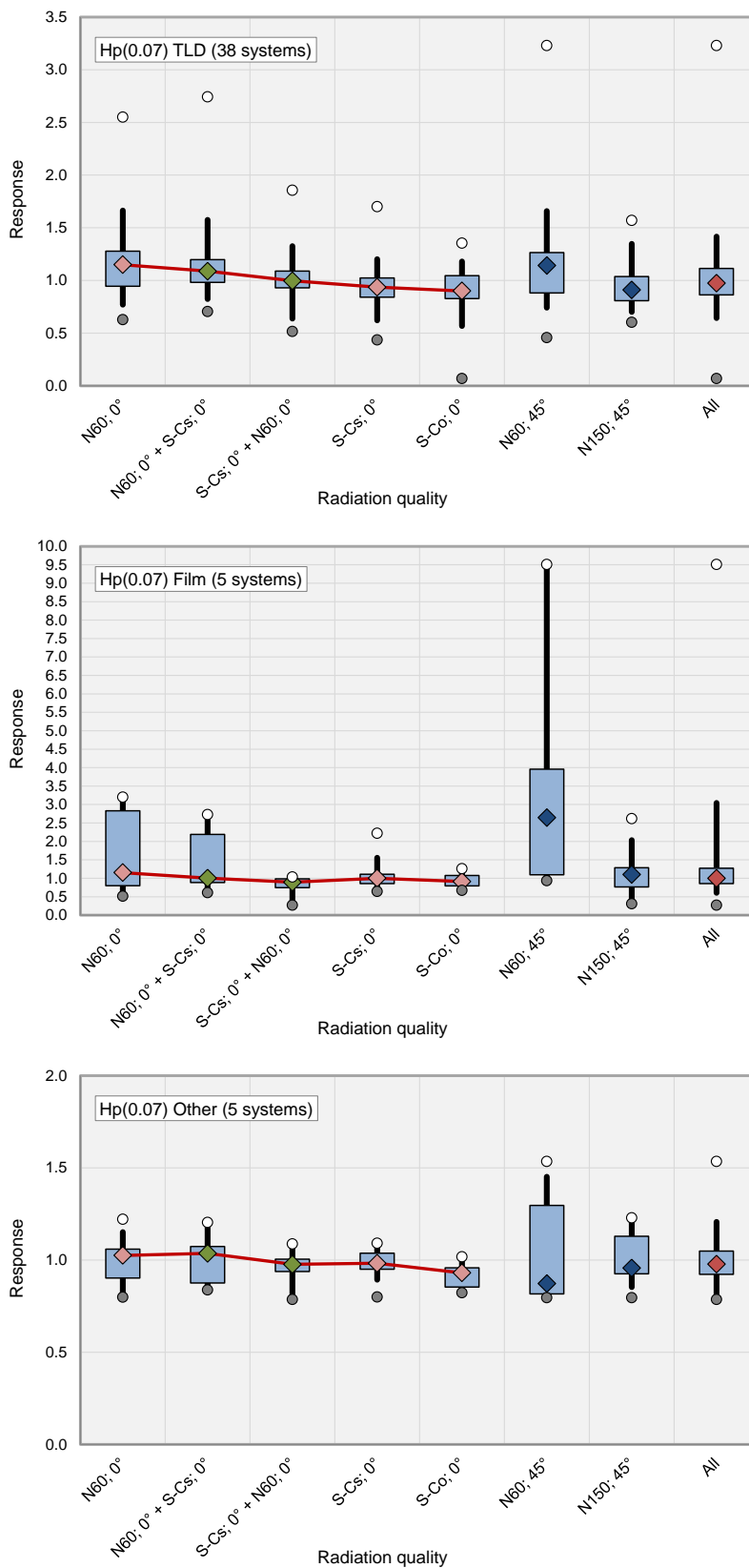


Figure 10 Distributions of all Hp(0.07) response values for different systems; TLD (top), Film (middle) and Other (bottom).

### 3.5 Response values for different TLD detector materials

Three different detectors material combinations were grouped in Figure 11.

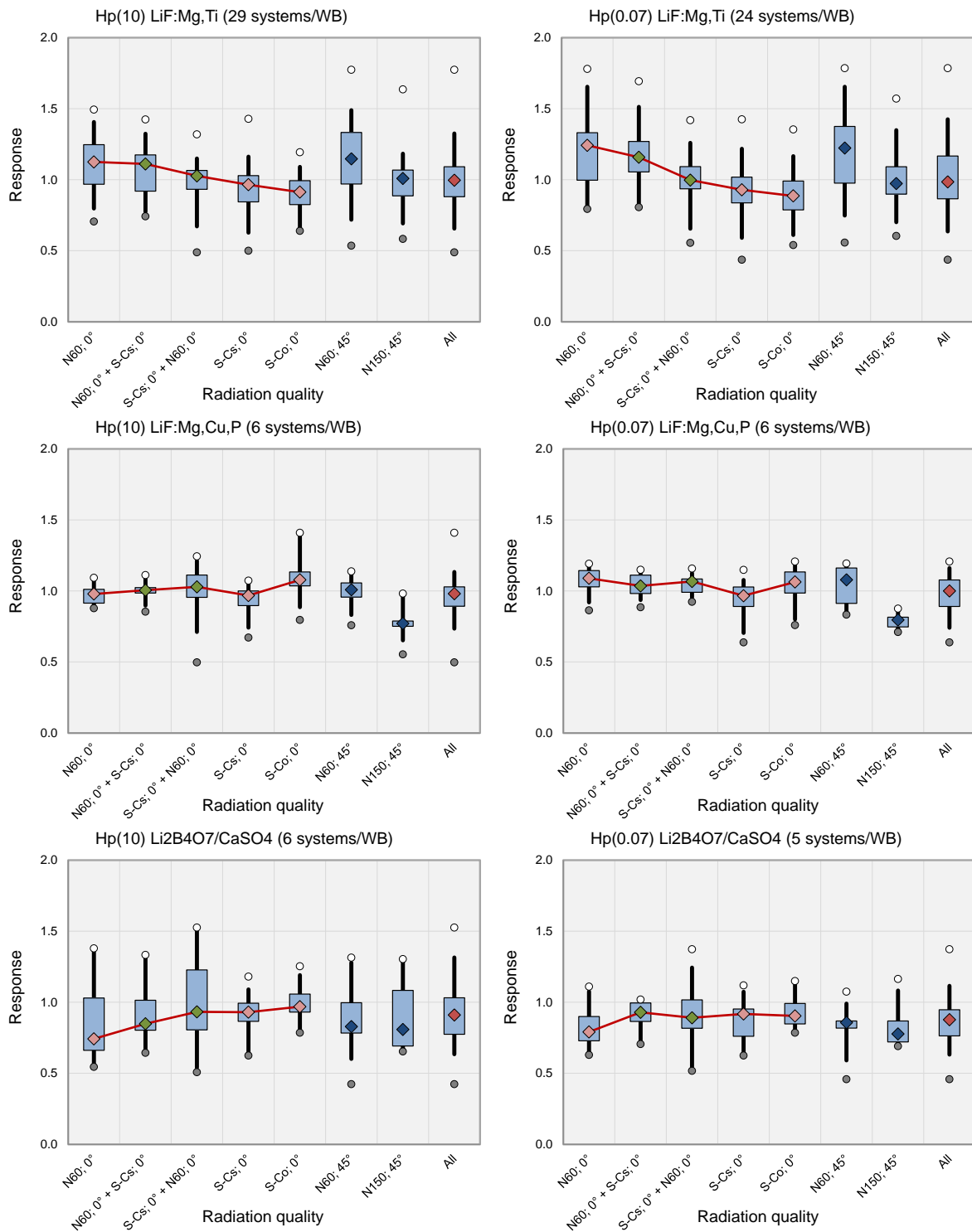


Figure 11 Comparison of the Response distributions for different TLD materials



Half of all systems use LiF:Mg,Ti as detector material. The typical over response for lower energy photons and some mixed radiation fields are observed in this case. For the high sensitive LiF:Mg,Cu,P both the energy response for the reference direction as well as the spread of the individual response values is superior to LiF:Mg,Ti. For LiF:Mg,Cu,P based systems the response for N150 (45°) shows in all cases values below one (range: 0.5 – 1). Although the response of this radiation quality N150 was not tested for the reference direction within this IC, it is assumed that this behaviour is primarily caused by the intrinsic low energy response of LiF:Mg,Cu,P for this photon energy. Many dosimeters of the group with a Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>/CaSO<sub>4</sub> detector material combination show under response for lower energy photons as well as for some mixed radiation fields. The spread of the individual response values for these systems is somewhat increased compared to LiF:Mg,Ti systems.

### 3.6 Angular response at N-60

To investigate the angular response, the ratios of response values for N60-45° and that for N60-0° were calculated. Median values together with various percentiles are displayed in Figure 12. In general the N60-45° results show higher response values compared to the N60-0° results (median value 1.06). One single film system, which has a response larger than 1 for N60-45° and smaller than 1 for N60-0°, is the cause for the high 97.5<sup>th</sup> percentile of this ratio for film systems.

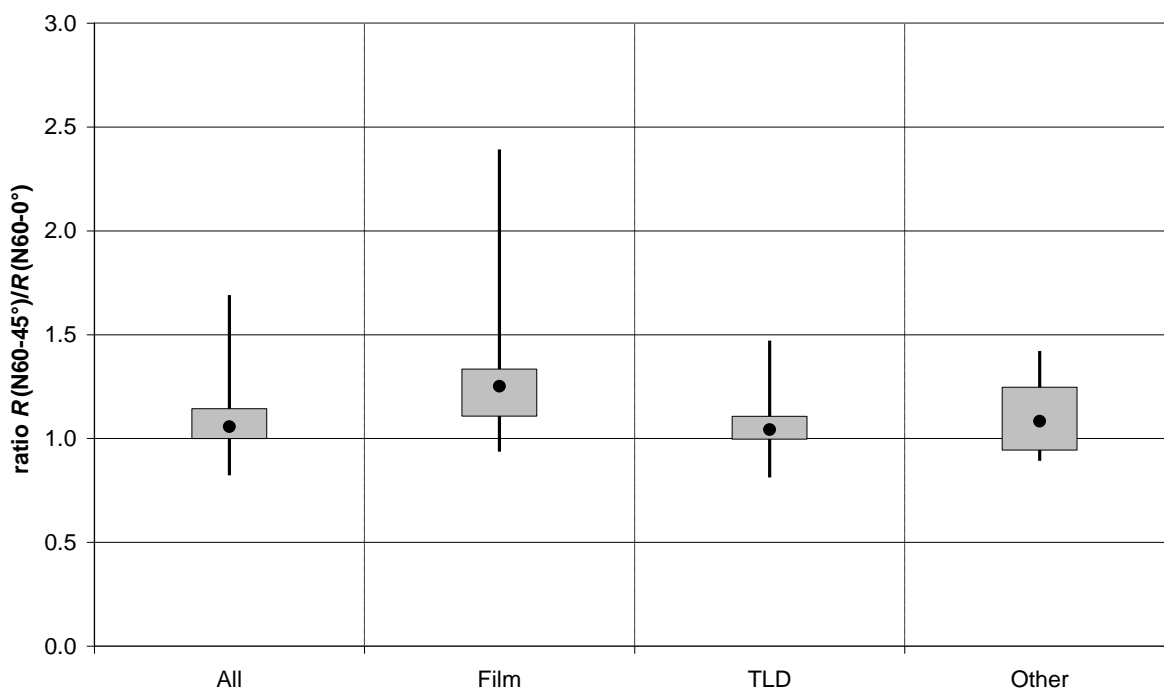


Figure 12. Ratios of  $H_p(10)$  responses for N60-45° and N60-0° (relative angular response). Dots: median ratios; bars: 25th to 75th percentiles; lines: 2.5th to 97.5th percentiles.

### 3.7 Performance in mixed fields

Figure 13 shows response values for different combinations of N60 and S-Cs, for normally incident beams and nominal dose values around 4 mSv. Most systems behave very well, although some film systems tend to overestimate the dose for N60 or underestimate for S-Cs. No significant differences were encountered when comparing qualities S-Cs+N-60 and N-60+S-Cs, except for films systems where the spread of results was higher for N-60+S-Cs quality.

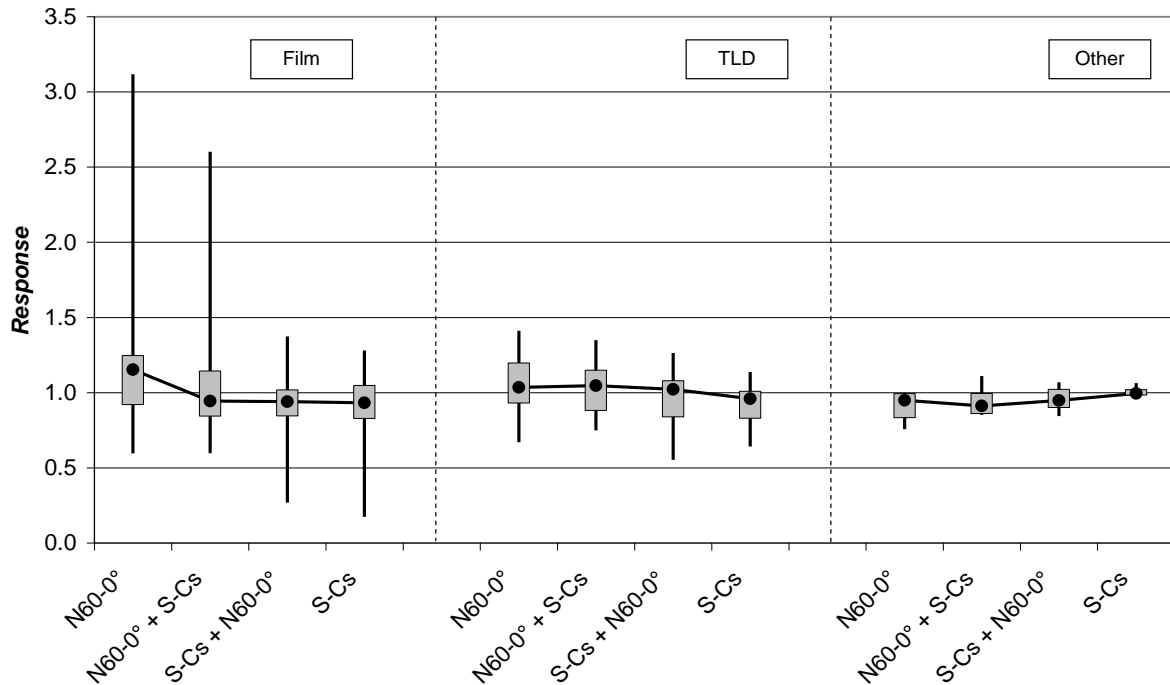


Figure 13.  $H_p(10)$  response values for different dose combinations of N60-0° and S-Cs. Nominal doses are all in the range 3 to 5 mSv (see Table 1). "N60-0° + S-Cs": 75% N60-0° and 25% S-Cs. "S-Cs + N60-0°": 25% N60-0° and 75% S-Cs. Dots: median response values; bars: 25th to 75th percentiles; lines: 2.5th to 97.5th percentiles.

### 3.8 Reproducibility

To investigate the reproducibility of the IC results for all pairs of irradiation, the coefficient of variation (CV) was calculated as the ratio of the standard deviation to the mean value of the two values. The relative frequency (histogram) and the cumulative frequency of the calculated values for all reported results is shown in Figure 14. For  $H_p(10)$ , it can be seen that around 75% of the reported values fall below 5% of CV. For only 5% of the reported results the CV was larger than 20% although some participants reported values with more than 35% of CV for a paired irradiation. For  $H_p(0.07)$  similar conclusions can be drawn but the CV values are, in general, higher than for  $H_p(10)$ .

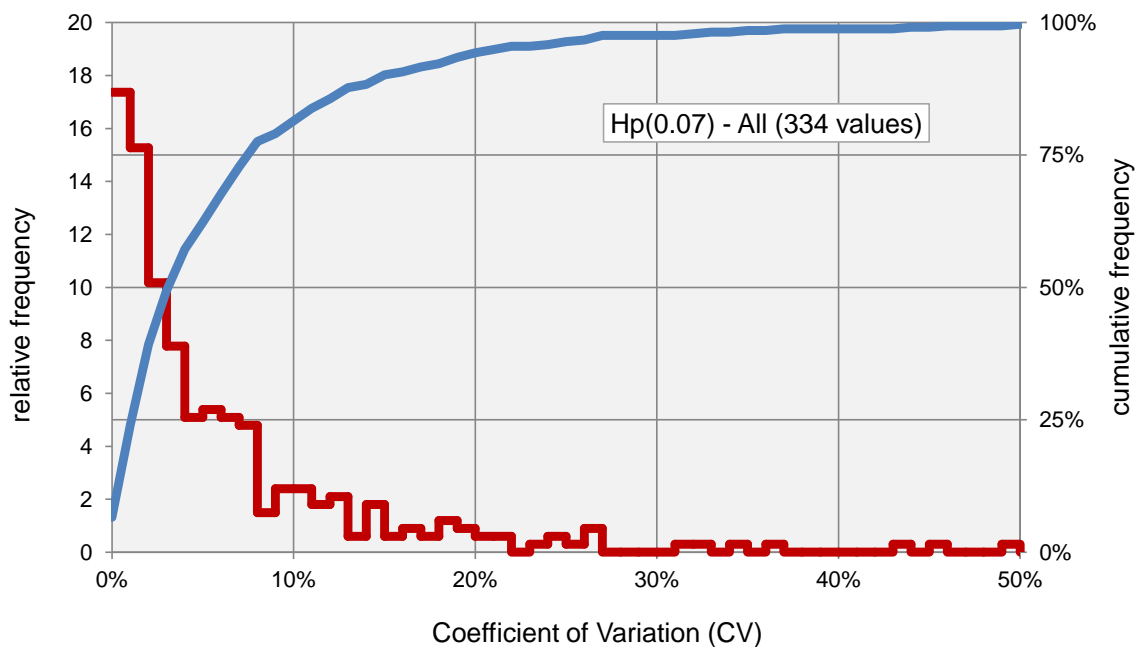
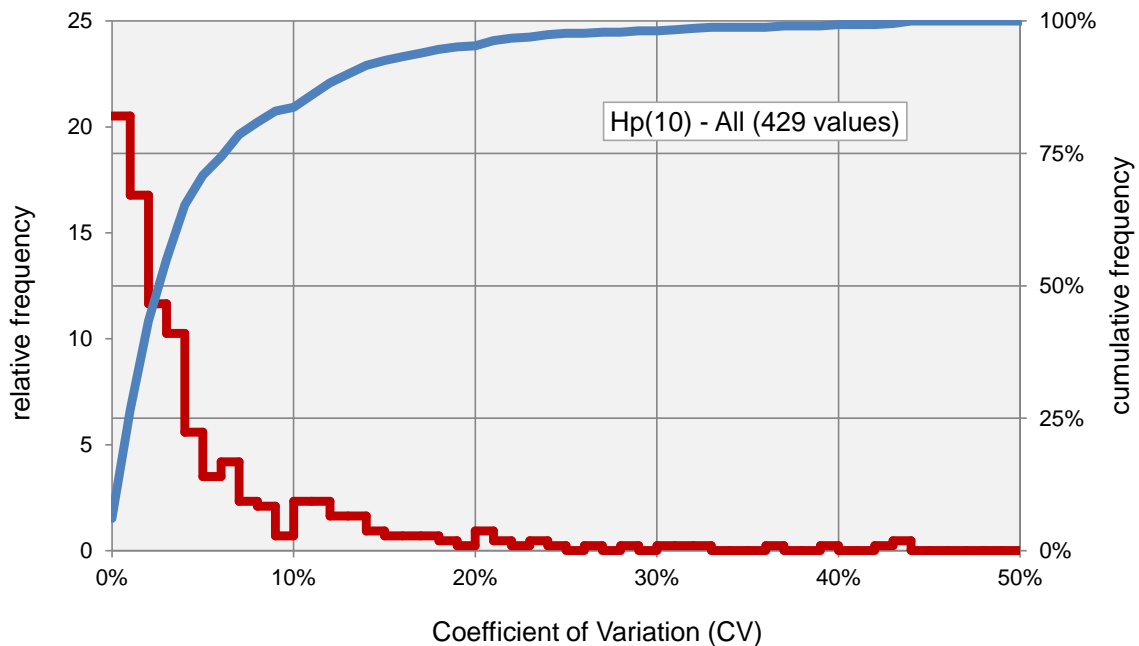


Figure 14. Distributions of coefficient of variation (CV) values for paired irradiations. Relative frequency (red histogram, left axis) and the cumulative frequency (blue, right axis). Values for  $H_p(10)$  (top) and for  $H_p(0.07)$  (bottom).

Figure 15 shows the same results, but subdivided per type of system.

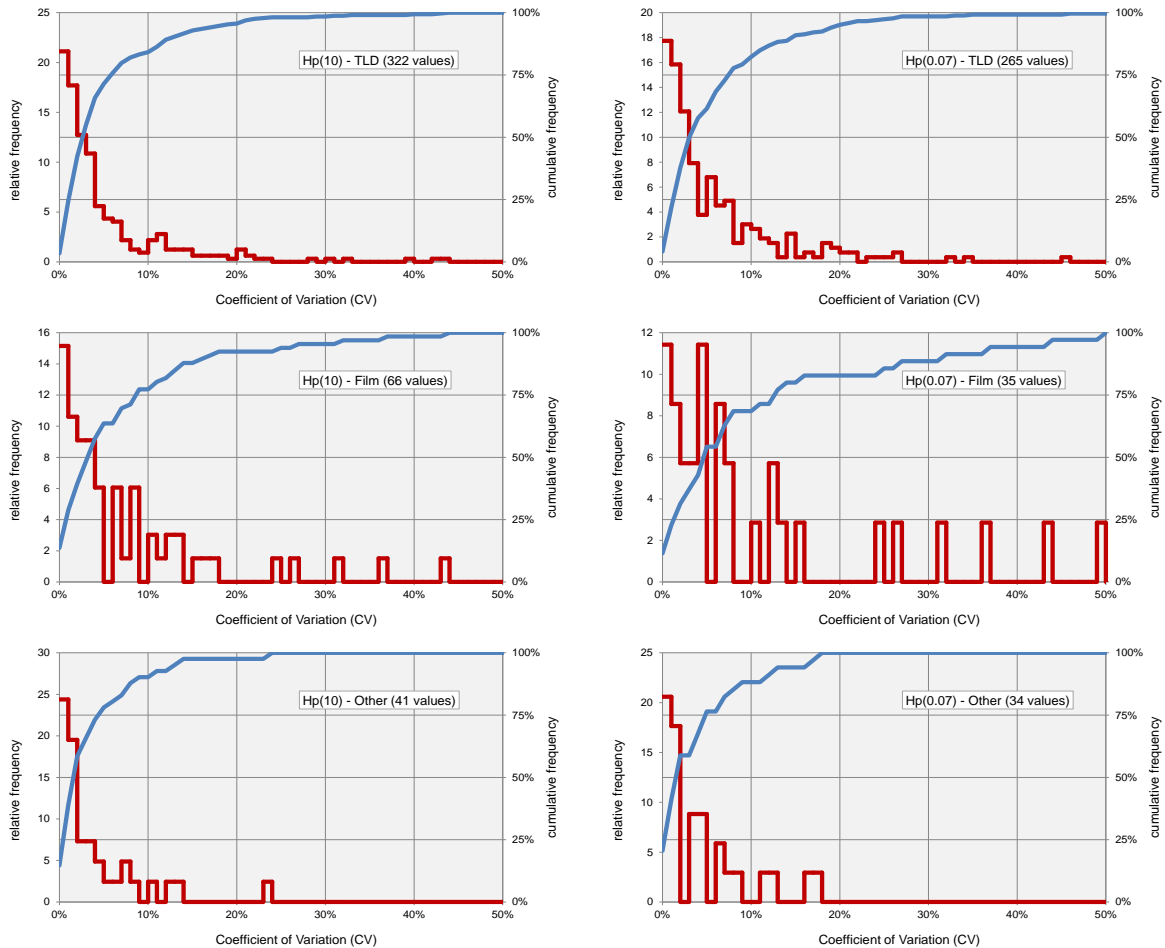


Figure 15. Same as Figure 14, but subdivided per type of system: TLD (top), Film (middle) and Other (bottom).

As a next step in this reproducibility analysis, the reproducibility of the results was compared with the different radiation qualities. For all participants, the mean value of the relative standard deviation for paired irradiations was calculated. Next, outliers with respect to reproducibility, defined as those pairs for which the relative standard deviation was more than 10 times the mean value for a given participant, were counted. The number of these outliers was largest for the N-60 45° quality (4 participants). Other qualities showing this type of outliers were the S-Cs quality (2 participants) and the N-60 0°, N-150 45° and mixed N-60 0° S-Cs qualities (all 1 participant).

### 3.9 Linearity

One of the aims of the irradiation plan was to test the linearity of the systems by varying the dose through an extensive range, from < 1mSv to > 100 mSv, without varying any other parameter, such as beam quality or irradiation angle. The quality chosen for this test was S-Cs. Unfortunately,

because of dose rate limitations, doses in the 100 mSv range were not available for S-Cs. As an alternative, S-Co was chosen for the highest dose value, to allow for testing the performance of the participating systems in this dose range (see Paragraph 2.4).

The response values on the low dose end of the dose range for S-Cs may vary because of non-perfect correction for background and transit dose (see Paragraph 3.13). This means that only results for S-Cs irradiations for the dose values around 3 mSv (4 dosimeters per system) and 10 mSv (2 dosimeters per system) could be used for a pure linearity test.

In an attempt to analyze the deviations from linearity in this restricted dose range, for all individual systems the variation of the response value was calculated as a function of the dose, by a linear-log fit. About 2/3 of the systems show a change of the response of less than  $\pm 5\%$  per decade dose variation. As can be expected, in most cases the change of response was not statistically significant.

Because of the limitations of this analysis in the restricted dose range, further details are not presented. For more meaningful testing of the linearity of the dosimetry systems, in future ICs attempts should be made to extend the linearity test to higher dose values.

### 3.10 Response values as a function of reference doses

Figure 16 displays all response values for  $H_p(10)$  as a function of reference dose. The distribution of response values were subdivided by type of dosimetry system (film, TLD, other). The dashed lines represent the trumpet curves. The outliers represent 7% of the total numbers of reported values for  $H_p(10)$  and 12% for  $H_p(0,07)$ . In Figure 16 one of the  $H_p(0,07)$  results showed a value of  $R > 5$  and is out of scale. Therefore, Figure 17 shows the  $H_p(0,07)$  from Figure 16 (bottom) including the result with  $R = 9.5$ .

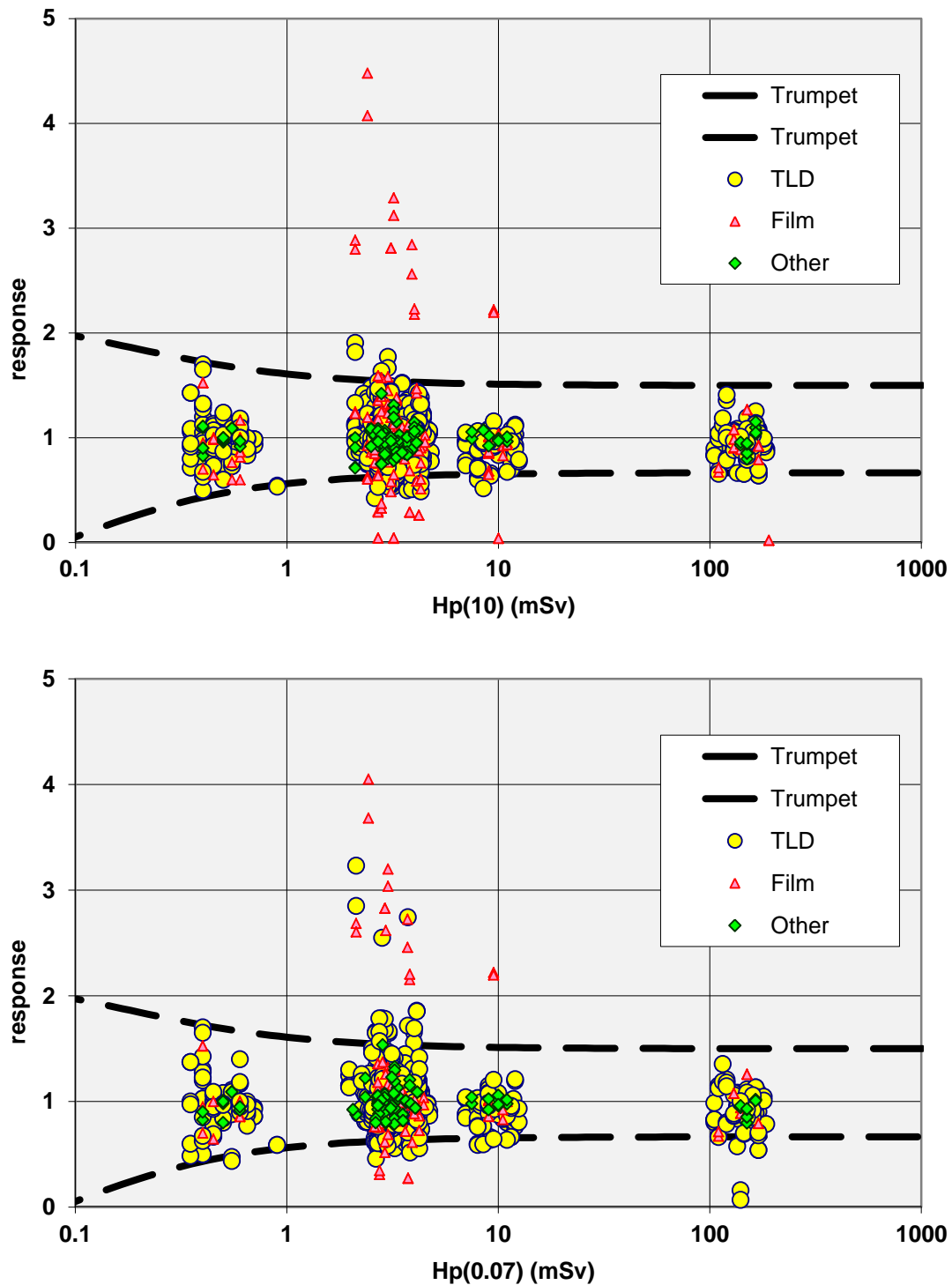


Figure 16. Response values for  $H_p(10)$  (top) and  $H_p(0.07)$  (bottom) as a function of reference dose. The dashed lines represent the trumpet curves according to equation (2), with  $F=1.5$  and  $H_0=0.085$  mSv. Outliers, defined as those values not falling within the trumpet curves represent 7% of the total numbers of reported values for  $H_p(10)$ , and 12% for  $H_p(0.07)$ .

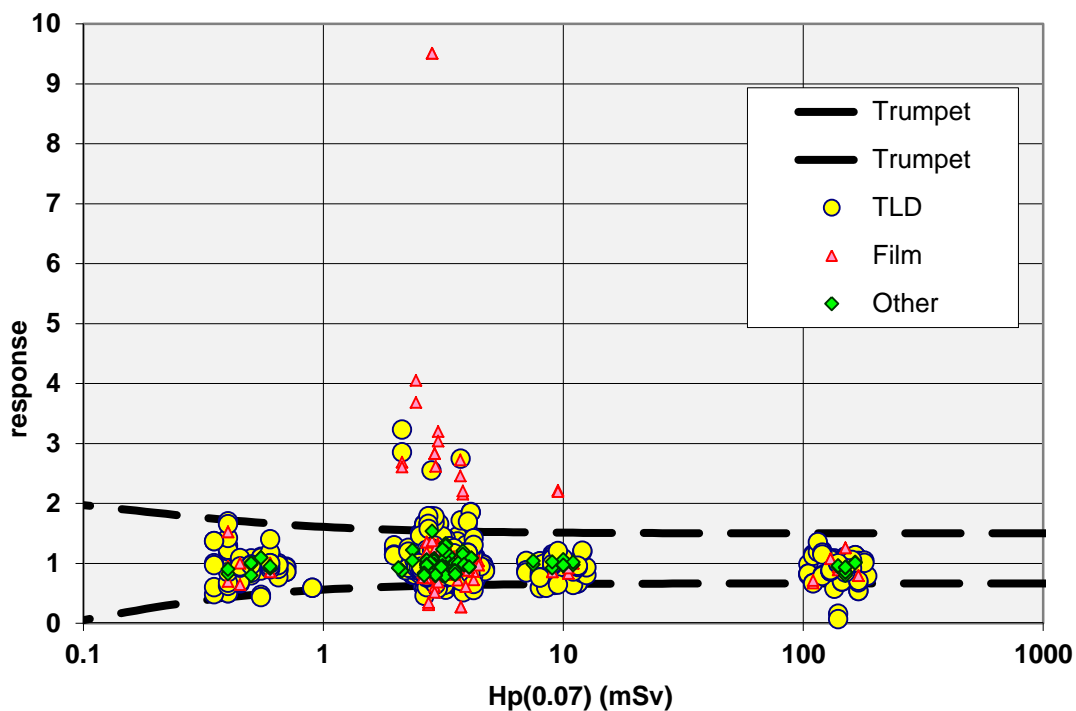


Figure 17: Same as Figure 16 (bottom) except for the different scale of the y-axis, showing the result with R=9.5.

### 3.11 Outliers

Defining all the response values out of the trumpet curves as outliers, Table 6 and Table 7 represent the relative number of outliers per radiation quality and type of dosimetry system.

Table 6. Relative number of outliers per radiation quality and type of dosimetry system, for  $H_p(10)$  results.

$H_p(10)$ Outliers	Quality	Film	TLD	Other	All
<b>X-ray</b>	N60; 0°	35%	2%	0%	<b>7%</b>
	N60; 45°	50%	8%	8%	<b>15%</b>
	N150; 45°	20%	4%	0%	<b>6%</b>
<b>Gamma</b>	S-Cs; 0°	15%	3%	0%	<b>5%</b>
	S-Co; 0°	20%	7%	0%	<b>8%</b>
<b>Mixed</b>	N60; 0° + S-Cs; 0°	45%	0%	0%	<b>7%</b>
	S-Cs; 0° + N60; 0°	20%	5%	0%	<b>7%</b>
<b>All</b>		<b>25%</b>	<b>4%</b>	<b>1%</b>	<b>7%</b>

Table 7. Relative number of outliers per radiation quality and type of dosimetry system, for  $H_p(0.07)$  results.

$H_p(0.07)$ Outliers	Quality	Film	TLD	Other	All
<b>X-ray</b>	N60; 0°	60%	13%	0%	<b>16%</b>
	N60; 45°	60%	16%	10%	<b>20%</b>
	N150; 45°	30%	6%	0%	<b>8%</b>
<b>Gamma</b>	S-Cs; 0°	5%	12%	0%	<b>10%</b>
	S-Co; 0°	0%	11%	0%	<b>9%</b>
<b>Mixed</b>	N60; 0° + S-Cs; 0°	50%	10%	0%	<b>13%</b>
	S-Cs; 0° + N60; 0°	20%	14%	0%	<b>13%</b>
<b>All</b>		<b>24%</b>	<b>12%</b>	<b>1%</b>	<b>12%</b>



### 3.12 Results for individual systems

This paragraph presents results for individual systems separately (but anonymously). Individual systems are represented with a “system number”. This number was randomly assigned and has no relation to the participants number as used by the organizer for keeping track of correspondence etc.

Response values for each individual system separately are shown anonymously in Figure 18. It shows that most outliers are grouped at certain systems. Some systems show a remarkable bias, other a more than normal spread of the results.

Although it is evident that the systems with the most pronounced outliers are film systems, it should be noticed that there are also film systems with very satisfactory performances.

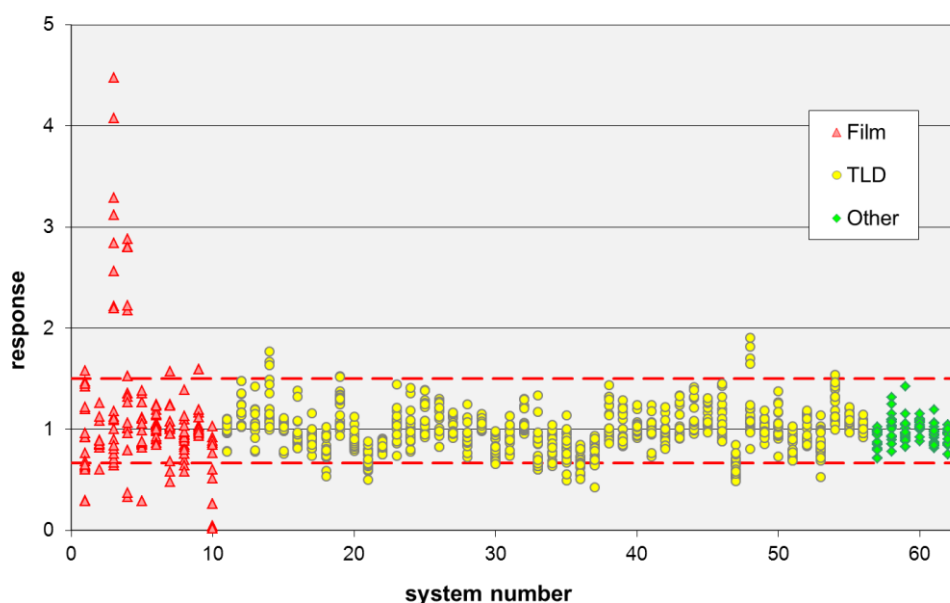


Figure 18.  $H_p(10)$  response values for each individual participant system. Film, TLD and Other systems are represented by triangles, circles and diamonds, respectively.

For each participating system a separate datasheet was prepared summarizing all the results and the underlying data. Data for  $H_p(10)$  and  $H_p(0.07)$  (if any) are presented in separate sheets. Each sheet shows the data reported by irradiation laboratory and by the participant, and the response value calculated from these values, for each irradiation separately. In addition, data has been combined for the radiation qualities. Some statistical quantities are given as well. Also, two figures have been added: one showing the response values in the trumpet curve, and one showing response values for the different radiation qualities.

These sheets have been prepared primarily to enable the participants to analyze their own results and to compare these with the results of the other participants. The individual results will not be analyzed in further detail in this report. The datasheets for all participants can be looked up in Appendix E: Datasheets with results for individual participants.

### 3.13 Non irradiated dosimeters

It was planned to check the suitability of the background correction procedures of the participants by analyzing the results reported for the non-irradiated spare dosimeters. However it turned out that the instructions from the OG on background dosimeters were not sufficiently detailed. The fact that the organizer identified to the participants only the 2 “background and transit control” dosimeters, but not the non-irradiated “spare” dosimeters, caused confusion for some participants. In addition, it was not made clear in advance whether or not the organizer would apply background and transit dose corrections to the results. As a result some participants reported results for non irradiated dosimeters without correction for transit and background dose, while others included this correction for all results. Furthermore it turned out that the results for the transit and background dose control APDs of the organizer differed significantly for the separate shipments. For package 1 the APD reading was 0.077 mSv for the shipments to and from GAEC including the stay at GAEC, while for the other two packages the reading was 0.036 mSv. The difference was caused mainly by the shipment to GAEC (0.047 mSv for package 1, 0.007 mSv for packages 2, 0.015 mSv for package 3), probably a result of security x-rays. Figure 19 shows the cumulative distributions of the numeric results reported for  $H_p(10)$  for the non-irradiated dosimeters for the dosimeters in shipment 1 and for those in shipment 2 and 3. For package 1, 25% of these values was larger than 0.1 mSv, while for packages 2 and 3 only 5% was larger than 0.1 mSv. This could suggest that the higher transit dose may have adversely affected the results for low doses for the dosimetry systems which were sent in package 1. However, from Figure 16, it can be concluded that there were no specific important problems for the low dose results in this exercise.

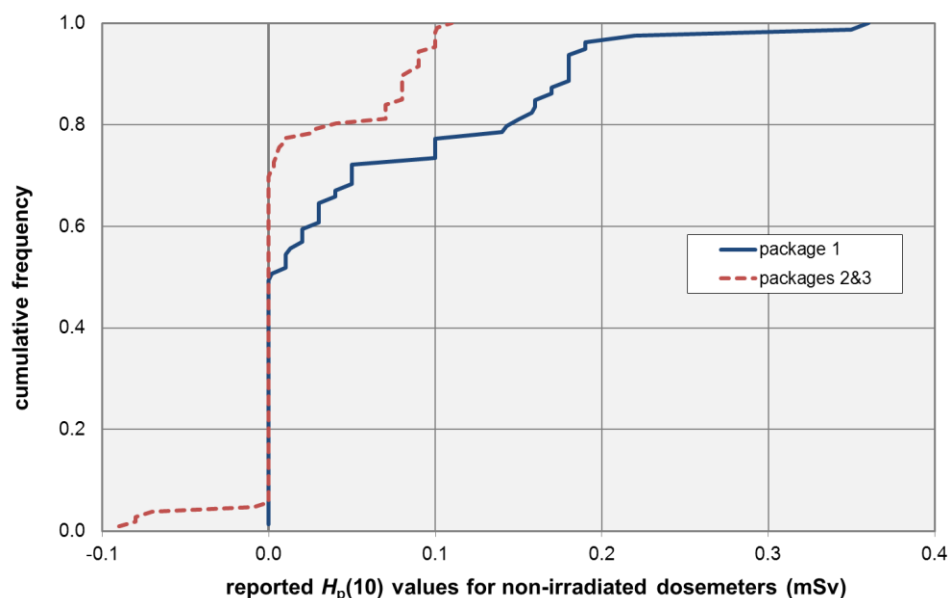


Figure 19. Cumulative distribution of reported  $H_p(10)$  values for non-irradiated dosimeters. Solid line: dosimeters shipped in package 1. Dashed line: dosimeters shipped in packages 2 and 3.

## Conclusions

Eurados working group 2 has developed a system for self-sustained ICs for individual monitoring services for external radiation. As a result the first IC exercise for whole body dosimeters in photon fields was carried out in 2008 with 62 participating dosimetry systems from participants across Europe. With the aid of the IC results the participants can show compliance within their quality management system, compare their results with those from other participants and develop action plans for improvement of their system. In general, the IMS participants showed a very satisfactory performance with only 7% outliers from the total reported values. Film systems show the largest deviations, although the results of some participants indicate that it is possible for film services to achieve results similar in quality to TLD systems. The median of all response values was very close to unity. This finding confirms that in general the calibration procedures, especially the traceability to standard dosimetry laboratories, works fine without any general bias. However, the results show also that a number of services (especially some outliers) could improve the quality of their systems by improved calibration.

Although scientific studies were not the primary objective of these exercises, specific additional information about the tested systems supplied by the participants for statistical analysis allows a more detailed analysis of these results with respect to different parameters like dosimeter type, detector material, and others design parameters. The influence of such parameters on the response values of the dosimeters were studied and discussed. Although the spread of individual response values for different systems are high, general trends for specific dosimeter groups were identified. In most cases these characteristics could be explained by the specific detector properties (e.g. intrinsic energy response of detector material). For multi element dosimeters (most whole-body dosimeters) pronounced differences in the dosimetric properties depending on the detector material can be observed. This leads to the conclusion that in many cases the effect of the applied dose algorithms (combining different detector elements to a single dose value) does not always compensate for the properties of the detector material. Mixed fields generally do not cause problems for the participating dosimeter systems. In these cases the dose algorithms seem to work quite well.

The high number of participants (52) with about 60 different systems confirms that there is a significant demand for internationally organized ICs and that these are of operational value for individual monitoring services. After this exercises Eurados continued this series of ICs. These will be described in separate reports.

## 4 References

- 1 Editors: D.T. Bartlett, P. Ambrosi, J.M. Bordy, J.W.E. van Dijk, *Harmonisation and Dosimetric Quality Assurance in Individual Monitoring for External Radiation*. Special issue - Radiat. Prot. Dosim. 89(1-2) (2000).
- 2 Editors: D.T. Bartlett, J. Boehm, H. Hyvonen, *Individual Monitoring of External Radiation*. Special Issue - Radiat. Prot. Dosim. 96(1-3) (2001).
- 3 Editors: J.W.E. van Dijk, T. Bolognese-Milsztajn, E. Fantuzzi, M.A. Lopez Ponte, H. Stadtmann, *Harmonisation of Individual Monitoring in Europe*. Special Issue - Radiat Prot Dosim., Vol. 112(1) (2004).
- 4 European Commission, *Technical Recommendations for Monitoring Individuals Occupationally Exposed to External Radiation, Directorate-General for Energy and Transport*. RP 160, Luxembourg (2009).
- 5 International Organisation for Standardisation and International Electrotechnical Commission, *General requirements for the competence of testing and calibration laboratories*. ISO/IEC Standard 17025. ISO (2005).
- 6 EURADOS WG2 , *Harmonisation of Individual Monitoring in Europe*. Final Report;, (January 2007).
- 7 T.W.M. Grimbergen, M. Figel, A.M. Romero, H. Stadtmann, A.F. McWhan, *EURADOS self-sustained programme of intercomparisons for individual monitoring services*. Radiat. Prot. Dosim. 144, 1-4, 266-274 (2011).
- 8 International Organisation for Standardisation. *X and gamma reference radiations for calibrating dosimeters and doserate meters and for determining their response as a function of photon energy. Part 3: Calibration of area and personal dosimeters and the measurement of their response as a function of energy and angle of incidence*. ISO Report 4037. ISO (1999).
- 9 International Organisation for Standardisation. *Radiation protection—criteria and performance limits for the periodic evaluation of processors of personal dosimeters for X and gamma radiation*. ISO Report 14146. ISO (2000).

## 5 Appendix A: Time schedule

Realized time Schedule:

February 2008	Announcement - Call for participants
April 2008	Deadline for IMS sending Application Forms
May 2008	Deadline for invoice reception (or exclusion letter in case of over subscription)
May 2008	Deadline for IMS payment and receiving guidelines
July 2008	Deadline for IMS sending doseimeters labelled
Summer 2008	Irradiation
September 2008	IMS Receiving doseimeters for readout
October 2008	Deadline for IMS sending doseimeters results
November 2008	Deadline for OG sending and confirming results from IMS
February 2009	IMS receiving Certificates of Participation at Participants Meeting (coinciding with 2009 Eurados Annual Meeting)





## 6 Appendix B: List of participants

(Participants sorted alphabetically by country and institute)

Institute	Place	Country
Austrian Research Centers GmbH - ARC	Seibersdorf	Austria
AV-Contrôlatoom	Vilvoorde	Belgium
Belgoproces NV	Dessel	Belgium
Controle Physique U.L.B.	Brussels	Belgium
Department of Health Physics	Gent	Belgium
Institut National des Radioelements	Fleurus	Belgium
SCK-CEN Belgian Nuclear Research Centre	Mol	Belgium
U.Z. gasthuisberg Leuven	Leuven	Belgium
Universite Catholique de Louvain- SERP	Woluwe-Saint-Lambert	Belgium
Institute for Public Health of Federation of Bosnia and Herzegovina	Sarajevo	Bosnia and Herzegovina
Ruder Boskovic Institute	Zagreb	Croatia
Personal Dosimetry Laboratory	Herlev	Denmark
Doseco Ltd	Jyväskylä	Finland
Loviisa Nuclear Power Plant, Fortum	Loviisa	Finland
TVO IMS	Eurajoki	Finland
Institute de Radioprotection et de Surete Nucleaire	Le Vesinet Cedex	France
LCIE Landauer	Fontenay-aux-Roses cedex	France
HMGU-Auswertungsstelle	Oberschleissheim	Germany
Greek Atomic Energy Commission	Ag. Paraskevi, Attiki	Greece
IAEA, Dept. of Nucl. Safety and Security	Wien	IAEA
Radiological Protection Institute of Ireland (RPiI)	Dublin	Ireland
Dipartimento di Energia. Laboratorio di Radioprotezione	Milano	Italy
ENEA Radiation Protection Institute Dosimetry Service	Bologna	Italy
L.B. Servizi per le Aziende s.r.l.	Terlizzi	Italy
Sogin Area Disattivazione Caorso	Caorso (Piacenza)	Italy
Tecnorad s.r.l.	Verona	Italy
Norwegian Radiation Protection Authority	Østerås	Norway
Laboratory of Individual and Environmental Dosimetry (LADIS)	Krakow	Poland

Institute	Place	Country
Nofer Institute of Occupational Medicine	Lodz	Poland
ITN-DPRSN	Sacavem	Portugal
DOZIMED S.R.L.	Bucharest	Romania
Institute of Occupational and Radiological Health	Belgrade	Serbia
Jozef Stefan Institute	Ljubljana	Slovenia
Nuclear Power Plant Krsko	Krsko	Slovenia
ZVD Zavod za varstvo pri delu d.d.	Ljubljana	Slovenia
Centro Nacional de Dosimetría	Valencia	Spain
Ciemat External Dosimetry Service	Madrid	Spain
Infocitec SA	Madrid	Spain
Instituto de Salud Carlos III, Centro Nacional de Sanidad Ambiental	Madrid	Spain
Servicio de Dosimetría Externa de la Fabrica de Juzbado	Juzbado (Salamanca)	Spain
Universitat Politècnica de Catalunya (UPC) Institut de Tècniques Energètiques	Barcelona	Spain
Paul Scherrer Institute	Villigen	Switzerland
NRG - Radiation & Environment	Arnhem	The Netherlands
Philips Electronics Nederland B.V.	Eindhoven	The Netherlands
Turkish Atomic Energy Authority Saraykoy	Ankara	Turkey
Grigorev Institute for Medical Radiology	Kharkov	Ukraine
Radiation Protection Institute ATS Ukraine	Kiev	Ukraine
Amersham Dosimetry Service	Amersham	United Kingdom
AWE Aldermaston	Reading, Berks	United Kingdom
Berkeley Approved Dosimetry Service	Berkeley, Gloucestershire	United Kingdom
Defence Science and Technology Laboratory	Gosport, Hants	United Kingdom
Landauer Europe	Kidlington, Oxfordshire	United Kingdom
UK Health Protection Agency	Chilton, Didcot	United Kingdom

## 7 Appendix C: Example irradiation certificate

GAEC-IRCL-Cal. Cert. No: DOS /721- /08		Page 1 of 2
 HELLENIC REPUBLIC MINISTRY OF DEVELOPMENT GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY		 GRI GREEK RESEARCH INSTITUTE
 <b>GAEC</b> <b>GREEK ATOMIC ENERGY COMMISSION</b> IONIZING RADIATION CALIBRATION LABORATORY (IRCL) Affiliated to the Hellenic Metrology Institute		 ESYD Calibrations Cert. No 116(2)
<b>CALIBRATION CERTIFICATE No: DOS /721- /08</b> <b>Number of Pages: 2</b> <b>Date of Issue: 24/07/2008</b>		
The following personnel dosimeters from:		<b>EURADOS INTERCOMPARISON PROGRAM</b>
have been calibrated at the <i>Hellenic Ionizing Radiation Calibration Laboratory of Greek Atomic Energy Commission:</i>		<b>Participant No:</b>
<b>Personal Dosimeters (PD):</b>	TLD	
<b>Manufacturer:</b>		
<b>Mode-Type:</b>	Whole body	
<b>Calibration Period:</b>	<b>From: 08/07/2008</b>	<b>To: 21/07/2008</b>
<p>The Kair reference values have been obtained using the reference/transfer ionization chamber PTW W-32002-LS01 (S/N 69), the NE2571 (SN:3108) and electrometer PTW UNIDOS 10002 (S/N 20314). The LS01 chamber was calibrated in PTB for S-Cs, ISO –Narrow Series on 05-05-2008 (PTB, Cal. Cert. No 6.62-2308K/6433). Both NE chamber and electrometer have been calibrated at BIPM for S-Co on 15-04-2008 (BIPM, Cal. Cert. No 34).</p> <p>The irradiation conditions are in accordance to ISO 4037/1-2-3-4 and IEC 61006.</p>		
<b>Irradiation conditions</b>		
<b>Phantom:</b>	ISO water phantom, (30x30x15) cm <sup>3</sup>	
<b>Source to PD Distance:</b>	100-200 cm, depending on required Kair rate	
<b>Kair Rate(at 200 cm):</b>	S-Cs:157,9 µGy/min S-Co-60: 42,4 mGy/min	N-60: 314,8 µGy/min N-150:547,8 µGy/min
<b>Field Size (at 200 cm):</b>	S-Cs: Circular, with diameter of 55,6 cm S-Co-60: Rectangular (30x30) cm <sup>2</sup> x-rays: Circular with diameter 26,8 cm	
<b>Build up PMMA:</b>	S-Cs: (0,2 x 30x30) cm <sup>3</sup> S-Co-60: (0,4 x 30x30) cm <sup>3</sup>	
<b>Reference point of PD:</b>	As defined by the participant.	
<b>Rotation axis:</b>	Around the vertical axis of the PD which is parallel to the coronal axis of the person who wears it.	
<b>Environmental conditions during irradiations:</b>		
<b>Temperature</b>	<b>Pressure</b>	<b>Relative Humidity</b>
≈ 23,0 °C	≈ 985,0 hPa	≈ 30 %
1/2		



**Irradiation Data**

# Dosimeter	Date	Quality <sup>3</sup>	Hp(10) <sup>2</sup> mSv	U % <sup>1</sup>	Hp(0,07) <sup>2</sup> mSv	U % <sup>1</sup>
-01	09/07/08	S-Cs	0.65	4.9	0.65	4.9
-02	09/07/08	S-Cs	0.65	4.9	0.65	4.9
-03	11/07/08	S-Cs	2.70	4.9	2.70	4.9
-04	11/07/08	S-Cs	2.70	4.9	2.70	4.9
-05	11/07/08	S-Cs	2.90	4.9	2.90	4.9
-06	11/07/08	S-Cs	2.90	4.9	2.90	4.9
-07	11/07/08	S-Cs	9.00	4.9	9.00	4.9
-08	11/07/08	S-Cs	9.00	4.9	9.00	4.9
-09	21/07/08	S-Co	160.00	4.9	160.00	4.9
-10	21/07/08	S-Co	160.00	4.9	160.00	4.9
-11	15/07/08	N60-0o	2.80	5.1	2.63	5.1
-12	15/07/08	N60-0o	2.80	5.1	2.63	5.1
-17	17/07/08	N60-45o	2.70	5.3	2.74	5.3
-18	17/07/08	N60-45o	2.70	5.3	2.74	5.3
-19	18/07/08	N150-45o	3.30	5.3	3.24	5.3
-20	18/07/08	N150-45o	3.30	5.3	3.24	5.3

# Dosimeter	Date	Quality	Hp(10) <sup>2</sup> mSv	U % <sup>1</sup>	Hp(0,07) <sup>2</sup> mSv	U % <sup>1</sup>
-13	09/07/08	S-Cs	1.10	4.9	1.10	4.9
	15/07/08	N60-0o	3.30	5.1	3.10	5.1
	Total		4.40	7.1	4.20	7.1
-14	09/07/08	S-Cs	1.10	4.9	1.10	4.9
	15/07/08	N60-0o	3.30	5.1	3.10	5.1
	Total		4.40	7.1	4.20	7.1
-15	11/07/08	S-Cs	2.50	4.9	2.50	4.9
	15/07/08	N60-0o	1.30	5.1	1.22	5.1
	Total		3.80	7.1	3.72	7.1
-16	11/07/08	S-Cs	2.50	4.9	2.50	4.9
	15/07/08	N60-0o	1.30	5.1	1.22	5.1
	Total		3.80	7.1	3.72	7.1

<sup>1</sup> U = uncertainty 95% confidence level (k=2)

<sup>2</sup> The conversion coefficients  $h_{p,k}(10;N,a)$ ,  $h_{p,k}(0,07;N,a)$ ,  $h_{p,k}(10;S,a)$  from ISO 4037-3: The conversion coefficient,  $h_{p,k}(0,07;S,a)$  from Radiation Protection 73 Report EUR 14852 EN.

<sup>3</sup> For Irradiations at 45°: Half of the prescribed dose at +45° and half at -45°.

Irradiations performed by:

Boziari A., Medical Physicist  
 Hourdakis C.J., Medical Physicist  
 Koumpouli E., Technician



Assignment of the GAEC's President

C.J. Hourdakis  
 Scientific Responsible of the IRCL



Calibrations  
 Cert. No 116(2)

This certificate is issued in according with the requirements of ISO 17025. It provides traceability of measurements to recognized national standards laboratories. The HIRCL/GAEC is a member of the IAEA/WHO Secondary Standard Dosimetry Laboratory Network. This certificate may not be reproduced other than in full, except with the prior written approval of the HIRCL/GAEC.

## 8 Appendix D: Example "Certificate of Participation"

European Radiation Dosimetry Group

European Radiation Dosimetry Group e.V. • Bundesallee 100 • D-38116 Braunschweig



Certificate of Participation Eurados-2008- xx

### Certificate of Participation

for the Eurados 2008 Intercomparison for whole body dosimeters

<b>Certificate number:</b>	Eurados-2008- xx
<b>Number of pages:</b>	3
<b>Date of Issue:</b>	<i>EXAMPLE</i>
<b>Participating institute:</b>	xx xxxxxxxx xxxxxxxx xxxxxxxx xxx
<b>Dosimetry system:</b>	xx xxxxxx xxxxxx'xx'
<b>Intercomparison procedure:</b>	<p>The EURADOS 2008 Intercomparison for whole body dosimeters was managed and coordinated on behalf of EURADOS by the WG2 Intercomparison Organization Group (OG). The OG established the irradiation plan, and announced the intercomparison, including the range limits of the doses and radiation qualities, at the EURADOS Annual Meeting in Paris in January 2008.</p> <p>After completing subscription procedures (including payment) the participant sent its dosimeters, according to the instructions of the OG, along with details of the dosimeter reference point, to the OG Coordinator (July 2008). The Coordinator relabeled the dosimeters according to the table given on page 2, and sent the dosimeters, along with the details of the dosimeter reference point, to the irradiating laboratory. The irradiating laboratory irradiated the dosimeters according to the irradiation plan and then sent the dosimeters back to the Coordinator (August 2008).</p> <p>The Coordinator then returned the dosimeters to the participant for assessment along with the two dosimeters reserved for transit and background dose control. The participant was instructed to follow normal routine procedures as much as possible. The participant then sent the results of the dosimeter readings to the Coordinator (September 2008). <u>After receipt of the participant results</u>, the Coordinator sent the irradiation data to the participant.</p>
<b>Irradiation data:</b>	See certificate of the irradiation laboratory, No: DOS /721-xx /08 (attached to this certificate)
<b>Participant results:</b>	See attached report of the participant
<b>Intercomparison results:</b>	See the table on page 3 of this certificate

On behalf of the intercomparison Organization Group:

Tom Grimbergen  
Coordinator

On behalf of Eurados:

Helmut Schumacher  
Chairperson

Page 1 of 3

**Relabeling of the dosimeter identification by the coordinator**

	Coordinator's dosimeter id	Participant's Dosimeter id
1	xx-01	xx-26
2	xx-02	xx-03
3	xx-03	xx-21
4	xx-04	xx-20
5	xx-05	xx-23
6	xx-06	xx-13
7	xx-07	xx-09
8	xx-08	xx-12
9	xx-09	xx-07
10	xx-10	xx-01
11	xx-11	xx-02
12	xx-12	xx-14
13	xx-13	xx-10
14	xx-14	xx-18
15	xx-15	xx-17
16	xx-16	xx-05
17	xx-17	xx-11
18	xx-18	xx-22
19	xx-19	xx-19
20	xx-20	xx-06
21	xx-21	xx-08
22	xx-22	xx-24
23	xx-23	xx-25
24	xx-24	xx-16
25	xx-25	xx-15
26	xx-26	xx-04

**Result of the intercomparison:**

Dose-meter id	Quality	Hp(10)			Hp(0.07)		
		Participant's value (mSv)	Reference value (mSv)	Ratio	Participant's value (mSv)	Reference value (mSv)	Ratio
1 XX'01	S-Cs	0.64	0.65	0.98	0.64	0.65	0.98
2 XX'02	S-Cs	0.65	0.65	1.00	0.65	0.65	1.00
3 XX'03	S-Cs	2.75	2.70	1.02	2.75	2.70	1.02
4 XX'04	S-Cs	2.58	2.70	0.96	2.58	2.70	0.96
5 XX'05	S-Cs	2.98	2.90	1.03	2.98	2.90	1.03
6 XX'06	S-Cs	2.77	2.90	0.96	2.77	2.90	0.96
7 XX'07	S-Cs	8.63	9.00	0.96	8.63	9.00	0.96
8 XX'08	S-Cs	8.88	9.00	0.99	8.88	9.00	0.99
9 XX'09	S-Co	136.24	160.00	0.85	136.24	160.00	0.85
10 XX'10	S-Co	146.83	160.00	0.92	146.83	160.00	0.92
11 XX'11	N60-0°	3.05	2.80	1.09	3.29	2.63	1.25
12 XX'12	N60-0°	3.11	2.80	1.11	3.36	2.63	1.28
13 XX'13	N60-0° + S-Cs	4.66	4.40	1.06	5.04	4.20	1.20
14 XX'14	N60-0° + S-Cs	4.61	4.40	1.05	4.79	4.20	1.14
15 XX'15	S-Cs + N60-0°	3.71	3.80	0.98	3.86	3.72	1.04
16 XX'16	S-Cs + N60-0°	3.93	3.80	1.03	4.09	3.72	1.10
17 XX'17	N60-45°	2.98	2.70	1.10	3.39	2.74	1.24
18 XX'18	N60-45°	3.2	2.70	1.19	3.66	2.74	1.34
19 XX'19	N150-45°	3.25	3.30	0.98	3.25	3.24	1.00
20 XX'20	N150-45°	3.19	3.30	0.97	3.19	3.24	0.98
21 XX'21		0.04	NIR		0.04	NIR	
22 XX'22		0.03	NIR		0.03	NIR	
23 XX'23		0.03	NIR		0.03	NIR	
24 XX'24		0.04	NIR		0.04	NIR	
25 XX'25		0.02	BGR		0.02	BGR	
26 XX'26		0.04	BGR		0.04	BGR	

## Notes:

BGR: BackGround dosimeter

NIR: Not IRadiated

WIR: Wrong IRadiated

## 9 Appendix E: Datasheets with results for individual participants

In this annex all individual results are given for all participating systems for the dose quantity  $H_p(10)$  and  $H_p(0.07)$ . Since some systems were not designed to measure  $H_p(0.07)$  these systems are missing in this part of the annex.

For the non-irradiated dosemeters the following denotation were used:

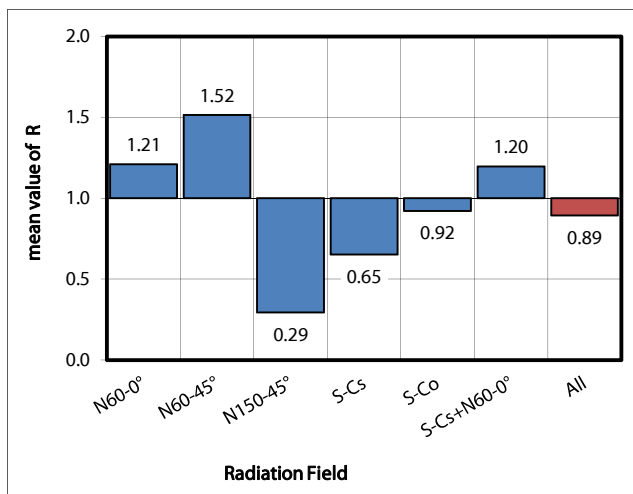
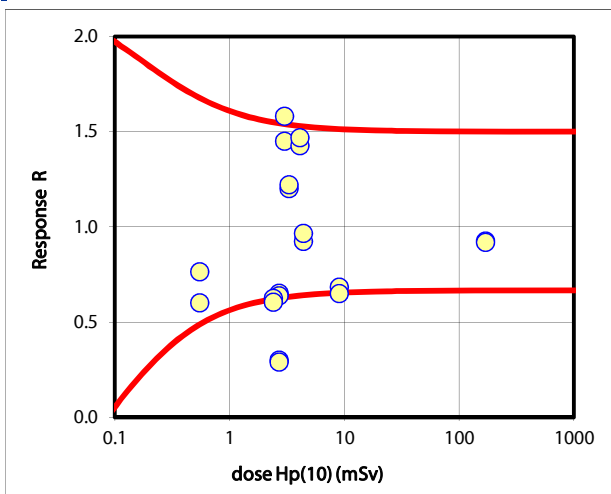
- BGR not irradiated dosemeter (used for background and transport dose correction by the monitoring service)
- NIR not irradiated dosemeter
- WIR wrongly irradiated dosemeter (wrongly irradiated by the irradiating laboratory)

## Laboratory Nr. 1 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	3.30	3.96	1.20	OK
	12	15/07/08	3.30	4.03	1.22	OK
N60-45°	17	17/07/08	3.00	4.35	1.45	OK
	18	17/07/08	3.00	4.74	1.58	outlier
N150-45°	19	18/07/08	2.70	0.81	0.30	outlier
	20	18/07/08	2.70	0.78	0.29	outlier
S-Cs	1	09/07/08	0.55	0.42	0.76	OK
	2	09/07/08	0.55	0.33	0.60	OK
	3	13/07/08	2.70	1.76	0.65	OK
	4	13/07/08	2.70	1.72	0.64	OK
	5	13/07/08	2.40	1.50	0.63	OK
	6	13/07/08	2.40	1.45	0.60	outlier
	7	13/07/08	9.00	6.15	0.68	OK
	8	13/07/08	9.00	5.85	0.65	outlier
S-Co	9	21/07/08	170.00	157.30	0.93	OK
	10	21/07/08	170.00	156.16	0.92	OK
S-Cs+N60-0°	13	09/07/08	4.40	4.06	0.92	OK
	14	09/07/08	4.40	4.25	0.97	OK
	15	13/07/08	4.10	5.85	1.43	OK
	16	13/07/08	4.10	6.02	1.47	OK
not irradiated	21	NIR		0.10		
	22	NIR		0.10		
	23	NIR		0.10		
	24	NIR		0.10		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.21	1.21	1.22	1.20	1%
N60-45°	2	1.52	1.52	1.58	1.45	6%
N150-45°	2	0.29	0.29	0.30	0.29	3%
S-Cs	8	0.64	0.65	0.76	0.60	8%
S-Co	2	0.92	0.92	0.93	0.92	1%
S-Cs+N60-0°	4	1.20	1.20	1.47	0.92	24%
All	20	0.84	0.89	1.58	0.29	38%

<b>Number of outliers:</b>	<b>5</b>	<b>Arithmetic mean value of all R:</b>	<b>0.89</b>
<b>Fraction of outliers:</b>	<b>25%</b>	<b>Median value of all R:</b>	<b>0.84</b>



Results: IC2008

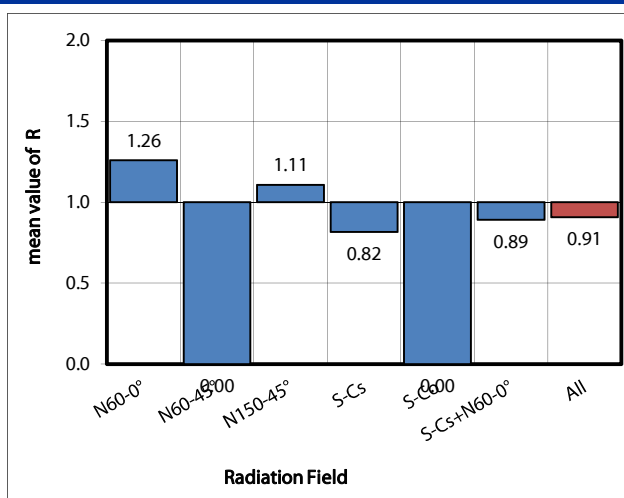
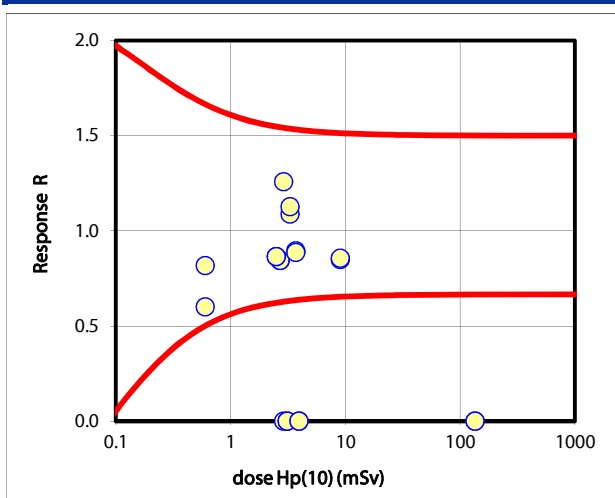
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 2 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.90	>4.31	1.26	outlier
	12	30/07/08	2.90	3.65		OK
N60-45°	17	31/07/08	3.10	>4.07	-	outlier
	18	31/07/08	3.10	>3.64		outlier
N150-45°	19	04/08/08	3.30	3.59	1.09	OK
	20	04/08/08	3.30	3.72		OK
S-Cs	1	24/07/08	0.60	0.36	0.60	OK
	2	24/07/08	0.60	0.49	0.82	OK
	3	28/07/08	2.70	2.28	0.84	OK
	4	28/07/08	2.70	2.28	0.84	OK
	5	28/07/08	2.50	2.16	0.86	OK
	6	28/07/08	2.50	2.16	0.86	OK
	7	28/07/08	9.00	7.64	0.85	OK
	8	28/07/08	9.00	7.70	0.86	OK
S-Co	9	04/08/08	135.00	>86.86	-	outlier
	10	04/08/08	135.00	>86.86	-	outlier
S-Cs+N60-0°	13	24/07/08	3.95	>5.49	-	outlier
	14	24/07/08	3.95	>5.68	-	outlier
	15	28/07/08	3.70	3.31	0.89	OK
	16	28/07/08	3.70	3.28	0.89	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	1	1.26	1.26	1.26	1.26	-
N60-45°	0	-	-	-	-	-
N150-45°	2	1.11	1.11	1.13	1.09	3%
S-Cs	8	0.85	0.82	0.86	0.60	11%
S-Co	0	-	-	-	-	-
S-Cs+N60-0°	2	0.89	0.89	0.89	0.89	1%
All	13	0.86	0.91	1.26	0.60	16%

<b>Number of outliers:</b>	<b>7</b>	<b>Arithmetic mean value of all R:</b>	<b>0.91</b>
<b>Fraction of outliers:</b>	<b>35%</b>	<b>Median value of all R:</b>	<b>0.86</b>



Results: IC2008

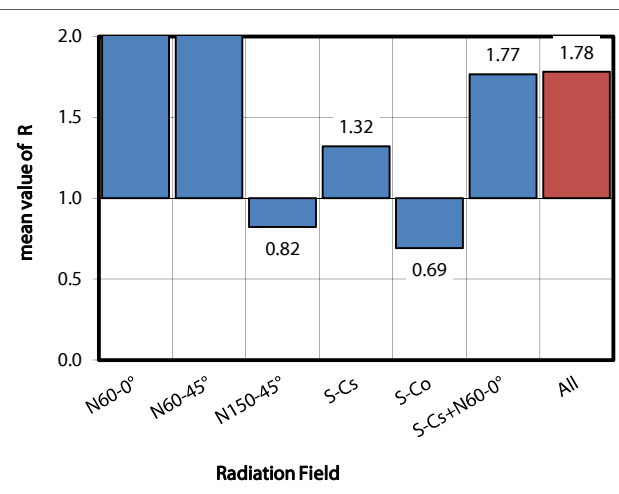
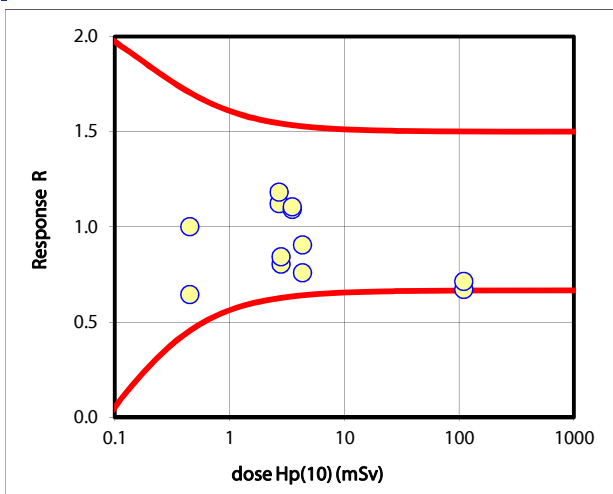
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 3 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.20	10.53	3.29	outlier
	12	14/07/08	3.20	9.99	3.12	outlier
N60-45°	17	17/07/08	2.40	9.78	4.08	outlier
	18	17/07/08	2.40	10.75	4.48	outlier
N150-45°	19	18/07/08	2.80	2.25	0.80	OK
	20	18/07/08	2.80	2.36	0.84	OK
S-Cs	1	09/07/08	0.45	0.45	1.00	OK
	2	09/07/08	0.45	0.29	0.64	OK
	3	11/07/08	2.70	3.03	1.12	OK
	4	11/07/08	2.70	3.19	1.18	OK
	5	11/07/08	3.50	3.82	1.09	OK
	6	11/07/08	3.50	3.87	1.11	OK
	7	11/07/08	9.50	21.09	2.22	outlier
	8	11/07/08	9.50	20.88	2.20	outlier
S-Co	9	21/07/08	110.00	73.89	0.67	OK
	10	21/07/08	110.00	78.42	0.71	OK
S-Cs+N60-0°	13	09/07/08	3.90	9.99	2.56	outlier
	14	09/07/08	3.90	11.08	2.84	outlier
	15	11/07/08	4.30	3.26	0.76	OK
	16	11/07/08	4.30	3.89	0.90	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>3.21</b>	3.21	3.29	3.12	4%
N60-45°	2	<b>4.28</b>	4.28	4.48	4.08	7%
N150-45°	2	<b>0.82</b>	0.82	0.84	0.80	3%
S-Cs	8	<b>1.11</b>	1.32	2.22	0.64	43%
S-Co	2	<b>0.69</b>	0.69	0.71	0.67	4%
S-Cs+N60-0°	4	<b>1.73</b>	1.77	2.84	0.76	62%
All	20	<b>1.11</b>	<b>1.78</b>	<b>4.48</b>	<b>0.64</b>	<b>122%</b>

<b>Number of outliers: 8</b>	<b>Arithmetic mean value of all R: 1.78</b>
<b>Fraction of outliers: 40%</b>	<b>Median value of all R: 1.11</b>



Results: IC2008

8 values out of diagramme range (>2)!

trumpet parameter: 1.5/0.085 mSv

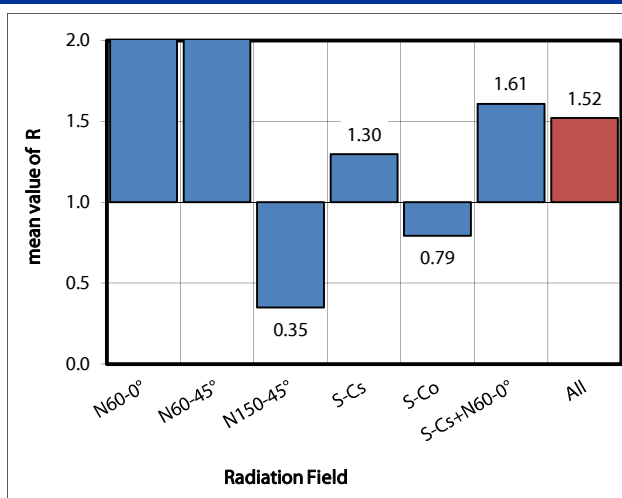
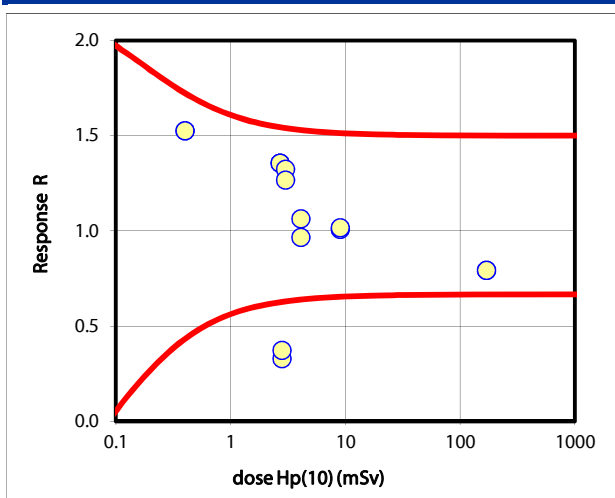


## Laboratory Nr. 4 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	3.10	8.71	2.81	outlier
	12	29/07/08	3.10	8.71	2.81	outlier
N60-45°	17	31/07/08	2.10	6.06	2.89	outlier
	18	31/07/08	2.10	5.88	2.80	outlier
N150-45°	19	01/08/08	2.80	0.92	0.33	outlier
	20	01/08/08	2.80	1.04	0.37	outlier
S-Cs	1	23/07/08	0.40	0.61	1.53	OK
	2	23/07/08	0.40	0.61	1.53	OK
	3	25/07/08	2.70	3.66	1.36	OK
	4	25/07/08	2.70	3.66	1.36	OK
	5	25/07/08	3.00	3.97	1.32	OK
	6	25/07/08	3.00	3.80	1.27	OK
	7	25/07/08	9.00	9.07	1.01	OK
	8	25/07/08	9.00	9.15	1.02	OK
S-Co	9	04/08/08	170.00	134.69	0.79	OK
	10	04/08/08	170.00	134.69	0.79	OK
S-Cs+N60-0°	13	23/07/08	4.00	8.71	2.18	outlier
	14	23/07/08	4.00	8.91	2.23	outlier
	15	25/07/08	4.10	4.36	1.06	OK
	16	25/07/08	4.10	3.96	0.97	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>2.81</b>	2.81	2.81	2.81	0%
N60-45°	2	<b>2.84</b>	2.84	2.89	2.80	2%
N150-45°	2	<b>0.35</b>	0.35	0.37	0.33	9%
S-Cs	8	<b>1.34</b>	1.30	1.53	1.01	15%
S-Co	2	<b>0.79</b>	0.79	0.79	0.79	0%
S-Cs+N60-0°	4	<b>1.62</b>	1.61	2.23	0.97	43%
All	20	<b>1.34</b>	1.52	2.89	0.33	82%

<b>Number of outliers: 8</b>	<b>Arithmetic mean value of all R: 1.52</b>
<b>Fraction of outliers: 40%</b>	<b>Median value of all R: 1.34</b>



Results: IC2008

6 values out of diagramme range (>2)!

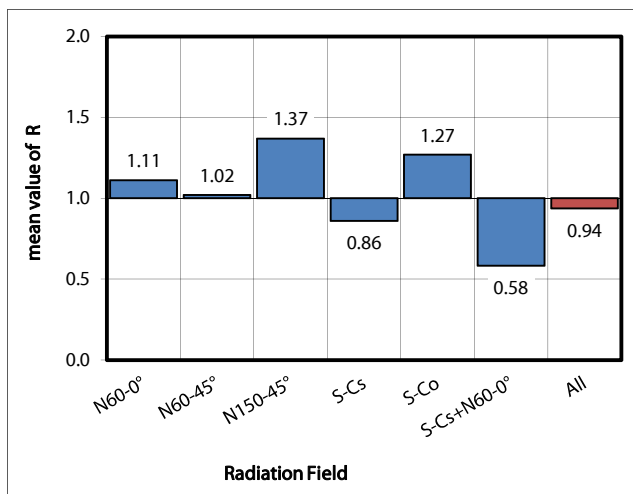
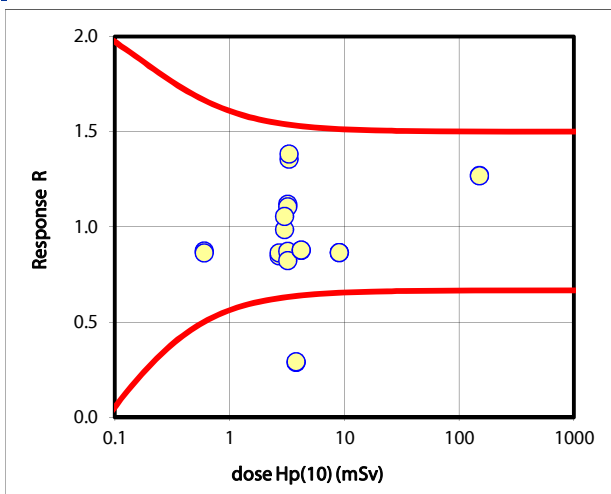
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 5 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.20	3.58	1.12	OK
	12	14/07/08	3.20	3.54	1.11	OK
N60-45°	18	16/07/08	3.00	2.96	0.99	OK
	21	16/07/08	3.00	3.17	1.06	OK
N150-45°	19	18/07/08	3.30	4.47	1.36	OK
	20	18/07/08	3.30	4.56	1.38	OK
S-Cs	1	09/07/08	0.60	0.52	0.87	OK
	2	09/07/08	0.60	0.52	0.86	OK
	3	10/07/08	2.70	2.29	0.85	OK
	4	10/07/08	2.70	2.33	0.86	OK
	5	10/07/08	3.20	2.79	0.87	OK
	6	10/07/08	3.20	2.63	0.82	OK
	7	10/07/08	9.00	7.79	0.87	OK
	8	10/07/08	9.00	7.79	0.87	OK
S-Co	9	21/07/08	150.00	190.50	1.27	OK
	10	21/07/08	150.00	190.10	1.27	OK
S-Cs+N60-0°	13	09/07/08	4.20	3.68	0.88	OK
	14	09/07/08	4.20	3.69	0.88	OK
	15	09/07/08	3.80	1.10	0.29	outlier
	16	09/07/08	3.80	1.11	0.29	outlier
not irradiated	17	WIR		2.06		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.11	1.11	1.12	1.11	1%
N60-45°	2	1.02	1.02	1.06	0.99	5%
N150-45°	2	1.37	1.37	1.38	1.36	1%
S-Cs	8	0.86	0.86	0.87	0.82	2%
S-Co	2	1.27	1.27	1.27	1.27	0%
S-Cs+N60-0°	4	0.58	0.58	0.88	0.29	58%
All	20	0.88	0.94	1.38	0.29	29%

Number of outliers:	2	Arithmetic mean value of all R:	0.94
Fraction of outliers:	10%	Median value of all R:	0.88



Results: IC2008

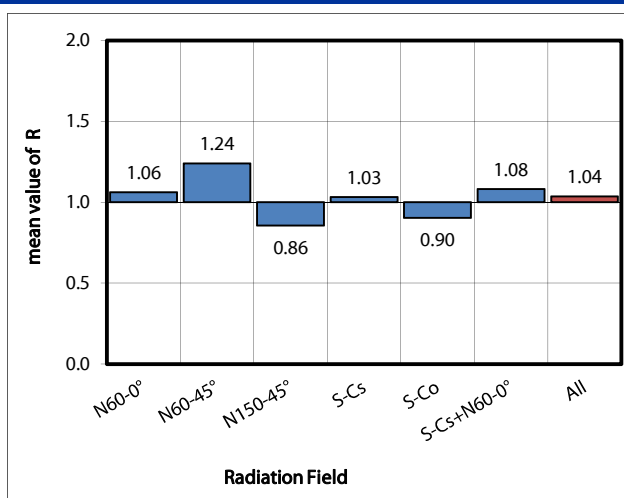
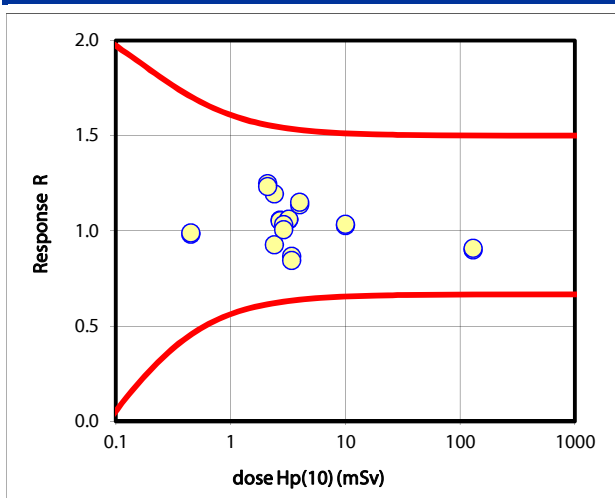
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 6 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.40	2.87	1.19	OK
	12	31/07/08	2.40	2.23	0.93	OK
N60-45°	17	01/08/08	2.10	2.62	1.25	OK
	18	01/08/08	2.10	2.59	1.23	OK
N150-45°	19	04/08/08	3.40	2.95	0.87	OK
	20	04/08/08	3.40	2.87	0.84	OK
S-Cs	1	25/07/08	0.45	0.44	0.98	OK
	2	25/07/08	0.45	0.45	0.99	OK
	3	29/07/08	2.70	2.85	1.06	OK
	4	29/07/08	2.70	2.84	1.05	OK
	5	29/07/08	3.20	3.38	1.06	OK
	6	29/07/08	3.20	3.40	1.06	OK
	7	29/07/08	10.00	10.27	1.03	OK
	8	29/07/08	10.00	10.34	1.03	OK
S-Co	9	04/08/08	130.00	117.06	0.90	OK
	10	04/08/08	130.00	118.01	0.91	OK
S-Cs+N60-0°	13	25/07/08	4.00	4.55	1.14	OK
	14	25/07/08	4.00	4.60	1.15	OK
	15	29/07/08	2.90	3.00	1.03	OK
	16	29/07/08	2.90	2.92	1.01	OK
not irradiated	21	NIR		-0.01		
	22	NIR		0.03		
	23	NIR		0.01		
	24	NIR		0.00		
	25	BGR		0.01		
	26	BGR		-0.01		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.06</b>	1.06	1.19	0.93	18%
N60-45°	2	<b>1.24</b>	1.24	1.25	1.23	1%
N150-45°	2	<b>0.86</b>	0.86	0.87	0.84	2%
S-Cs	8	<b>1.04</b>	1.03	1.06	0.98	3%
S-Co	2	<b>0.90</b>	0.90	0.91	0.90	1%
S-Cs+N60-0°	4	<b>1.08</b>	1.08	1.15	1.01	7%
All	20	<b>1.03</b>	<b>1.04</b>	<b>1.25</b>	<b>0.84</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.03</b>



Results: IC2008

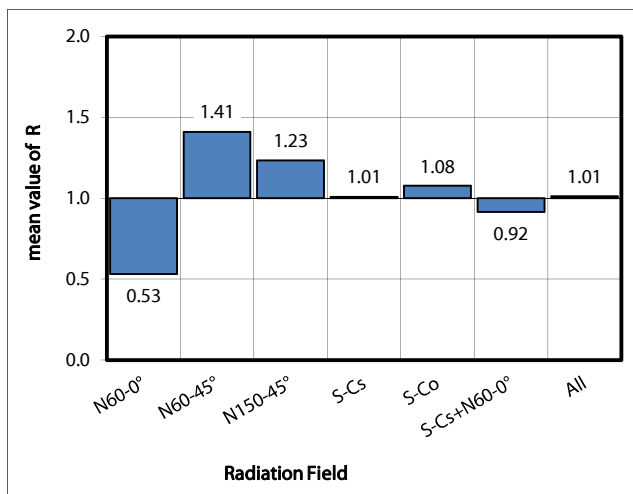
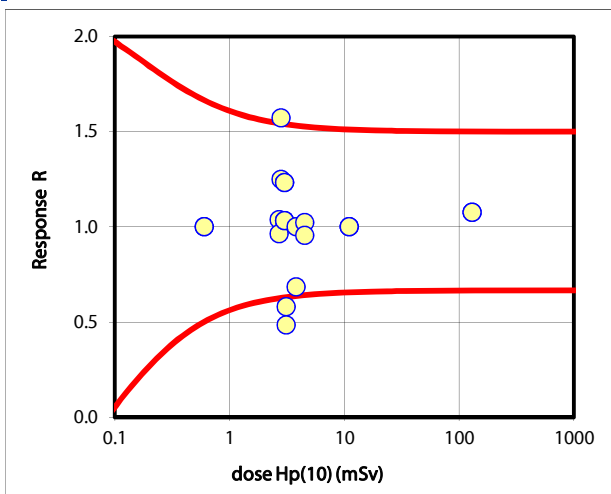
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 7 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.10	1.80	0.58	outlier
	12	14/07/08	3.10	1.50	0.48	outlier
N60-45°	17	17/07/08	2.80	4.40	1.57	outlier
	18	17/07/08	2.80	3.50	1.25	OK
N150-45°	19	18/07/08	3.00	3.70	1.23	OK
	20	18/07/08	3.00	3.70	1.23	OK
S-Cs	1	09/07/08	0.60	0.60	1.00	OK
	2	09/07/08	0.60	0.60	1.00	OK
	3	11/07/08	2.70	2.80	1.04	OK
	4	11/07/08	2.70	2.60	0.96	OK
	5	11/07/08	3.00	3.10	1.03	OK
	6	11/07/08	3.00	3.10	1.03	OK
	7	11/07/08	11.00	11.00	1.00	OK
	8	11/07/08	11.00	11.00	1.00	OK
S-Co	9	21/07/08	130.00	140.00	1.08	OK
	10	21/07/08	130.00	140.00	1.08	OK
S-Cs+N60-0°	13	09/07/08	3.80	2.60	0.68	OK
	14	09/07/08	3.80	3.80	1.00	OK
	15	11/07/08	4.50	4.60	1.02	OK
	16	11/07/08	4.50	4.30	0.96	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.53</b>	0.53	0.58	0.48	13%
N60-45°	2	<b>1.41</b>	1.41	1.57	1.25	16%
N150-45°	2	<b>1.23</b>	1.23	1.23	1.23	0%
S-Cs	8	<b>1.00</b>	1.01	1.04	0.96	2%
S-Co	2	<b>1.08</b>	1.08	1.08	1.08	0%
S-Cs+N60-0°	4	<b>0.98</b>	0.92	1.02	0.68	17%
All	20	<b>1.01</b>	1.01	1.57	0.48	24%

<b>Number of outliers:</b>	<b>3</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>15%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

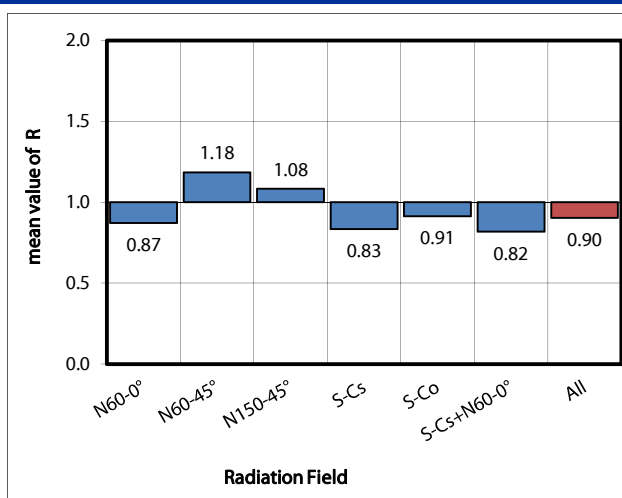
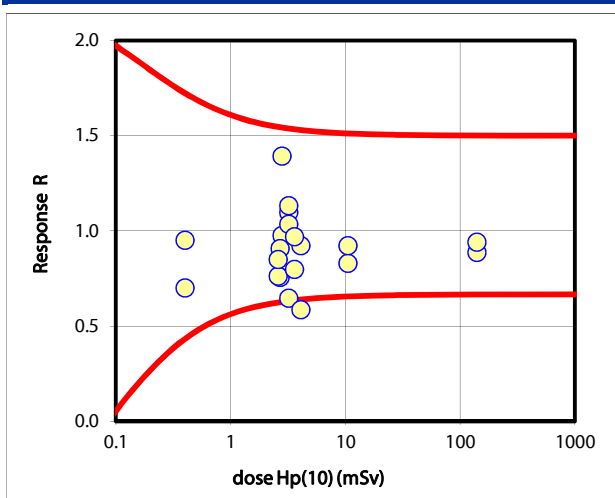
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 8 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.20	3.51	1.10	OK
	12	14/07/08	3.20	2.07	0.65	OK
N60-45°	17	17/07/08	2.80	3.90	1.39	OK
	18	17/07/08	2.80	2.73	0.98	OK
N150-45°	19	18/07/08	3.20	3.31	1.03	OK
	20	18/07/08	3.20	3.62	1.13	OK
S-Cs	1	09/07/08	0.40	0.28	0.70	OK
	2	09/07/08	0.40	0.38	0.95	OK
	3	10/07/08	2.70	2.45	0.91	OK
	4	10/07/08	2.70	2.04	0.76	OK
	5	10/07/08	2.60	1.98	0.76	OK
	6	10/07/08	2.60	2.21	0.85	OK
	7	10/07/08	10.50	8.70	0.83	OK
	8	10/07/08	10.50	9.67	0.92	OK
S-Co	9	21/07/08	140.00	124.20	0.89	OK
	10	21/07/08	140.00	131.52	0.94	OK
S-Cs+N60-0°	13	09/07/08	4.10	3.78	0.92	OK
	14	09/07/08	4.10	2.40	0.59	outlier
	15	10/07/08	3.60	3.49	0.97	OK
	16	10/07/08	3.60	2.87	0.80	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.87</b>	0.87	1.10	0.65	36%
N60-45°	2	<b>1.18</b>	1.18	1.39	0.98	25%
N150-45°	2	<b>1.08</b>	1.08	1.13	1.03	6%
S-Cs	8	<b>0.84</b>	0.83	0.95	0.70	11%
S-Co	2	<b>0.91</b>	0.91	0.94	0.89	4%
S-Cs+N60-0°	4	<b>0.86</b>	0.82	0.97	0.59	21%
All	20	<b>0.91</b>	<b>0.90</b>	<b>1.39</b>	<b>0.59</b>	<b>18%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.90</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.91</b>



Results: IC2008

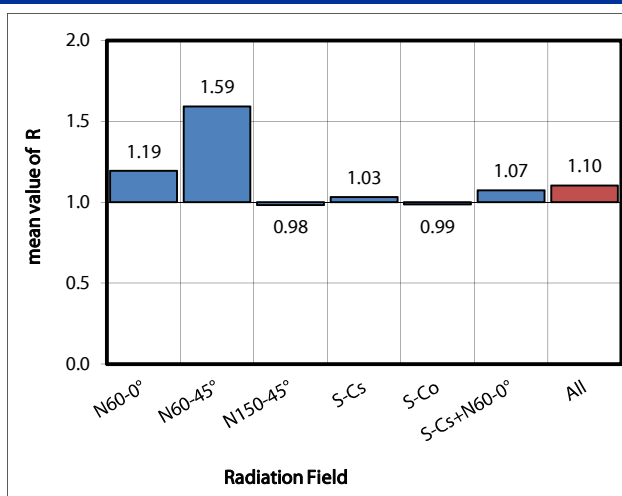
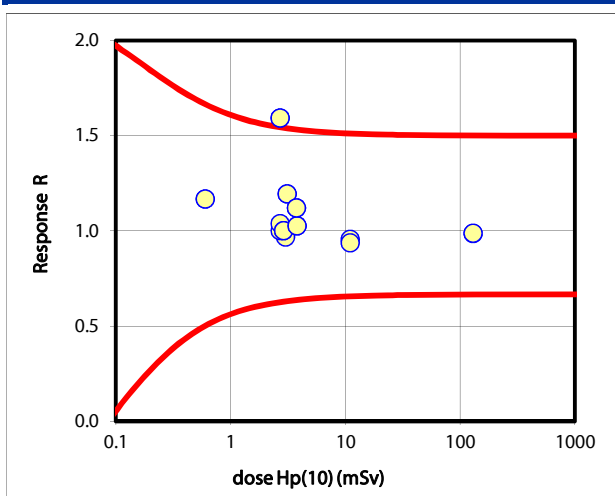
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 9 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.10	3.70	1.19	OK
	12	30/07/08	3.10	3.70	1.19	OK
N60-45°	17	31/07/08	2.70	4.30	1.59	outlier
	18	31/07/08	2.70	4.30	1.59	outlier
N150-45°	19	01/08/08	3.00	3.00	1.00	OK
	20	01/08/08	3.00	2.90	0.97	OK
S-Cs	1	23/07/08	0.60	0.70	1.17	OK
	2	23/07/08	0.60	0.70	1.17	OK
	3	28/07/08	2.70	2.70	1.00	OK
	4	28/07/08	2.70	2.80	1.04	OK
	5	28/07/08	2.90	2.90	1.00	OK
	6	28/07/08	2.90	2.90	1.00	OK
	7	28/07/08	11.00	10.50	0.95	OK
	8	28/07/08	11.00	10.30	0.94	OK
S-Co	9	04/08/08	130.00	128.20	0.99	OK
	10	04/08/08	130.00	128.30	0.99	OK
S-Cs+N60-0°	13	23/07/08	3.80	3.90	1.03	OK
	14	23/07/08	3.80	3.90	1.03	OK
	15	28/07/08	3.75	4.20	1.12	OK
	16	28/07/08	3.75	4.20	1.12	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.19	1.19	1.19	1.19	0%
N60-45°	2	1.59	1.59	1.59	1.59	0%
N150-45°	2	0.98	0.98	1.00	0.97	2%
S-Cs	8	1.00	1.03	1.17	0.94	9%
S-Co	2	0.99	0.99	0.99	0.99	0%
S-Cs+N60-0°	4	1.07	1.07	1.12	1.03	5%
All	20	1.03	1.10	1.59	0.94	19%

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>1.10</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>1.03</b>



Results: IC2008

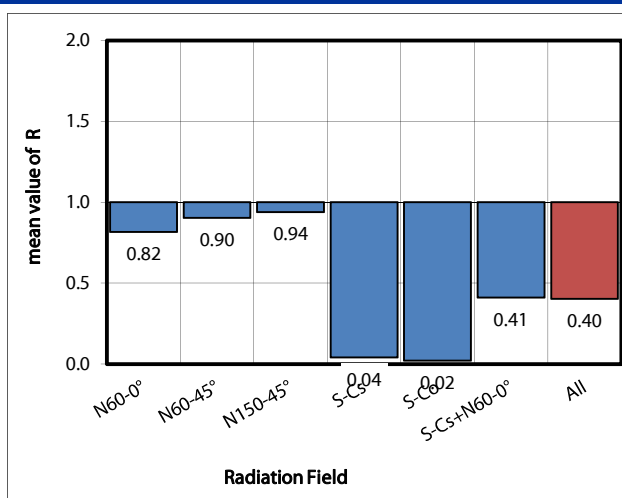
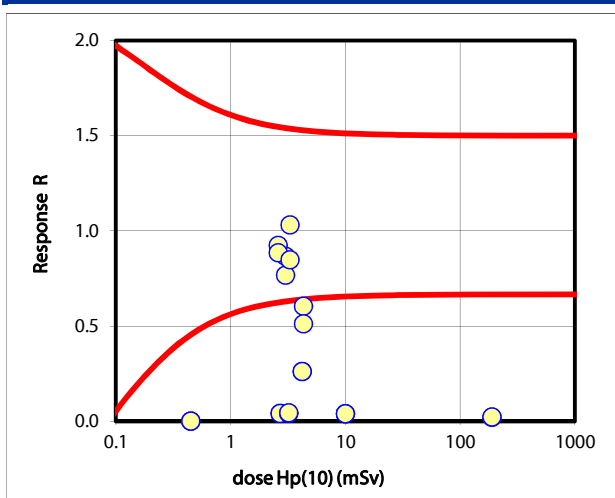
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 10 (Film) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.00	2.60	0.87	OK
	12	14/07/08	3.00	2.30	0.77	OK
N60-45°	17	17/07/08	2.60	2.40	0.92	OK
	18	17/07/08	2.60	2.30	0.88	OK
N150-45°	19	18/07/08	3.30	3.40	1.03	OK
	20	18/07/08	3.30	2.80	0.85	OK
S-Cs	1	09/07/08	0.45	<0.1*	-	outlier
	2	09/07/08	0.45	<0.1*	-	outlier
	3	11/07/08	2.70	0.11	0.04	outlier
	4	11/07/08	2.70	0.11	0.04	outlier
	5	11/07/08	3.20	0.13	0.04	outlier
	6	11/07/08	3.20	0.14	0.04	outlier
	7	11/07/08	10.00	0.40	0.04	outlier
	8	11/07/08	10.00	0.40	0.04	outlier
S-Co	9	21/07/08	190.00	4.00	0.02	outlier
	10	21/07/08	190.00	4.10	0.02	outlier
S-Cs+N60-0°	13	09/07/08	4.30	2.60	0.60	outlier
	14	09/07/08	4.30	2.20	0.51	outlier
	15	11/07/08	4.20	1.10	0.26	outlier
	16	11/07/08	4.20	1.10	0.26	outlier
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.82	0.82	0.87	0.77	9%
N60-45°	2	0.90	0.90	0.92	0.88	3%
N150-45°	2	0.94	0.94	1.03	0.85	14%
S-Cs	6	0.04	0.04	0.04	0.04	3%
S-Co	2	0.02	0.02	0.02	0.02	2%
S-Cs+N60-0°	4	0.39	0.41	0.60	0.26	43%
All	18	0.26	0.40	1.03	0.02	39%

<b>Number of outliers:</b> 14	<b>Arithmetic mean value of all R:</b> 0.40
<b>Fraction of outliers:</b> 70%	<b>Median value of all R:</b> 0.26



Results: IC2008

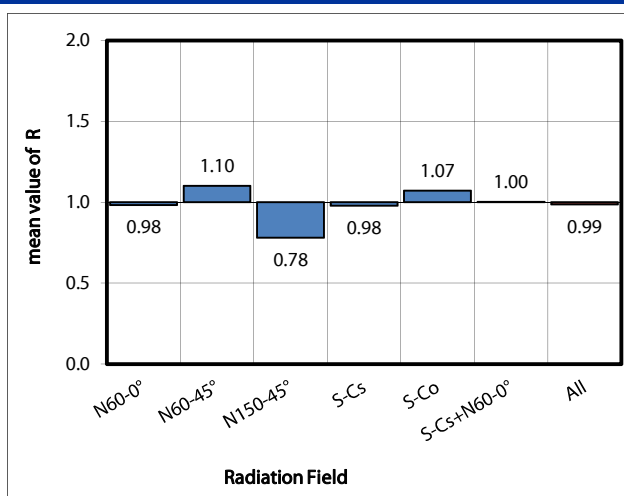
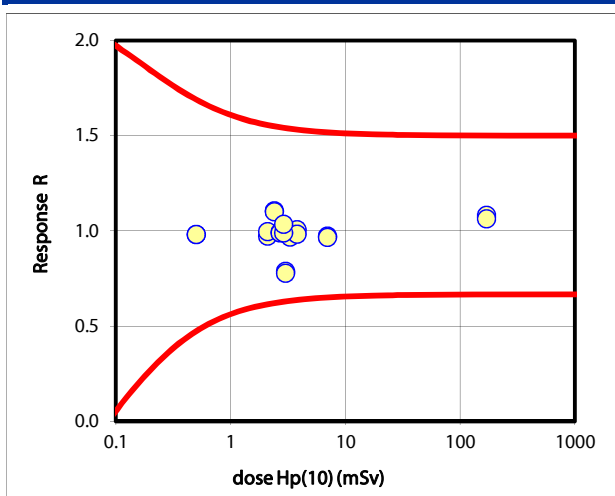
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 11 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.10	2.04	0.97	OK
	12	30/07/08	2.10	2.09	1.00	OK
N60-45°	17	31/07/08	2.40	2.65	1.10	OK
	18	31/07/08	2.40	2.64	1.10	OK
N150-45°	19	04/08/08	3.00	2.36	0.79	OK
	20	04/08/08	3.00	2.33	0.78	OK
S-Cs	1	24/07/08	0.50	0.49	0.98	OK
	2	24/07/08	0.50	0.49	0.98	OK
	3	29/07/08	2.70	2.68	0.99	OK
	4	29/07/08	2.70	2.67	0.99	OK
	5	29/07/08	3.30	3.23	0.98	OK
	6	29/07/08	3.30	3.19	0.97	OK
	7	29/07/08	7.00	6.80	0.97	OK
	8	29/07/08	7.00	6.76	0.97	OK
S-Co	9	04/08/08	170.00	183.80	1.08	OK
	10	04/08/08	170.00	180.67	1.06	OK
S-Cs+N60-0°	13	24/07/08	3.80	3.82	1.01	OK
	14	24/07/08	3.80	3.73	0.98	OK
	15	29/07/08	2.90	2.87	0.99	OK
	16	29/07/08	2.90	3.00	1.03	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.98</b>	0.98	1.00	0.97	2%
N60-45°	2	<b>1.10</b>	1.10	1.10	1.10	0%
N150-45°	2	<b>0.78</b>	0.78	0.79	0.78	1%
S-Cs	8	<b>0.98</b>	0.98	0.99	0.97	1%
S-Co	2	<b>1.07</b>	1.07	1.08	1.06	1%
S-Cs+N60-0°	4	<b>1.00</b>	1.00	1.03	0.98	2%
All	20	<b>0.99</b>	<b>0.99</b>	<b>1.10</b>	<b>0.78</b>	<b>8%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.99</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.99</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

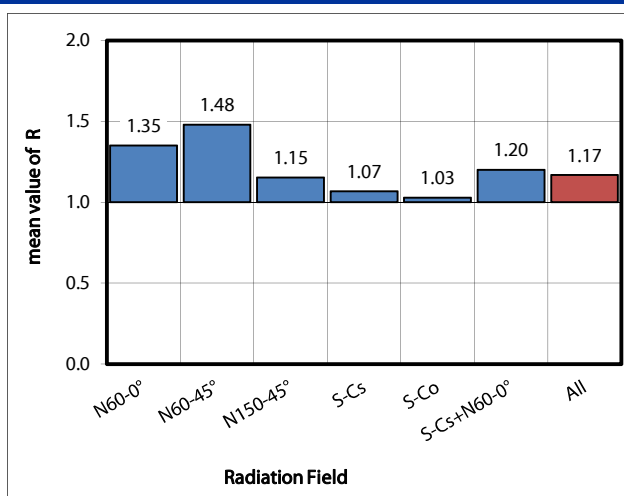
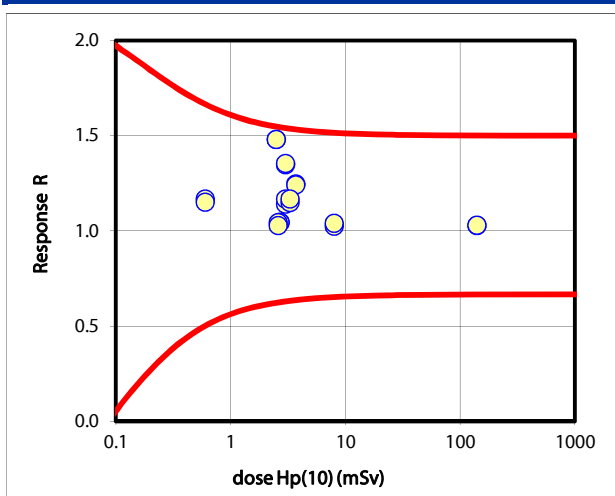


## Laboratory Nr. 12 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.00	4.04	1.35	OK
	12	30/07/08	3.00	4.06	1.35	OK
N60-45°	17	31/07/08	2.50	3.70	1.48	OK
	18	31/07/08	2.50	3.70	1.48	OK
N150-45°	19	04/08/08	3.00	3.42	1.14	OK
	20	04/08/08	3.00	3.50	1.17	OK
S-Cs	1	24/07/08	0.60	0.70	1.17	OK
	2	24/07/08	0.60	0.69	1.15	OK
	3	28/07/08	2.70	2.82	1.04	OK
	4	28/07/08	2.70	2.82	1.04	OK
	5	28/07/08	2.60	2.71	1.04	OK
	6	28/07/08	2.60	2.67	1.03	OK
	7	28/07/08	8.00	8.19	1.02	OK
	8	28/07/08	8.00	8.32	1.04	OK
S-Co	9	04/08/08	140.00	143.96	1.03	OK
	10	04/08/08	140.00	144.13	1.03	OK
S-Cs+N60-0°	13	24/07/08	3.70	4.61	1.25	OK
	14	24/07/08	3.70	4.59	1.24	OK
	15	28/07/08	3.30	3.79	1.15	OK
	16	28/07/08	3.30	3.85	1.17	OK
not irradiated	21	NIR		0.07		
	22	NIR		0.07		
	23	NIR		0.07		
	24	NIR		0.08		
	25	BGR		0.08		
	26	BGR		0.08		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.35	1.35	1.35	1.35	0%
N60-45°	2	1.48	1.48	1.48	1.48	0%
N150-45°	2	1.15	1.15	1.17	1.14	2%
S-Cs	8	1.04	1.07	1.17	1.02	5%
S-Co	2	1.03	1.03	1.03	1.03	0%
S-Cs+N60-0°	4	1.20	1.20	1.25	1.15	4%
All	20	1.15	1.17	1.48	1.02	15%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.17</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.15</b>



Results: IC2008

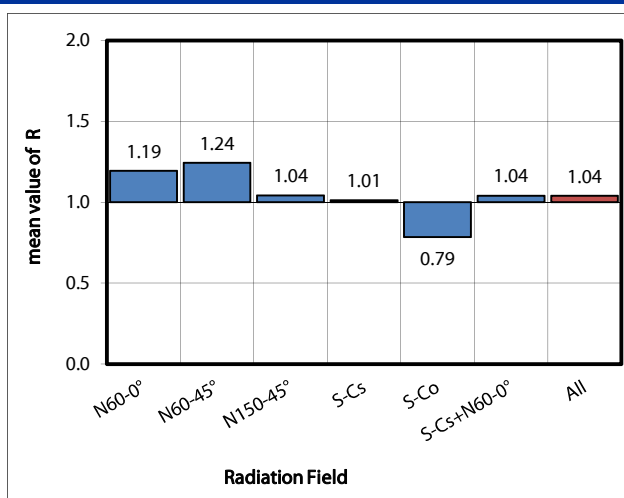
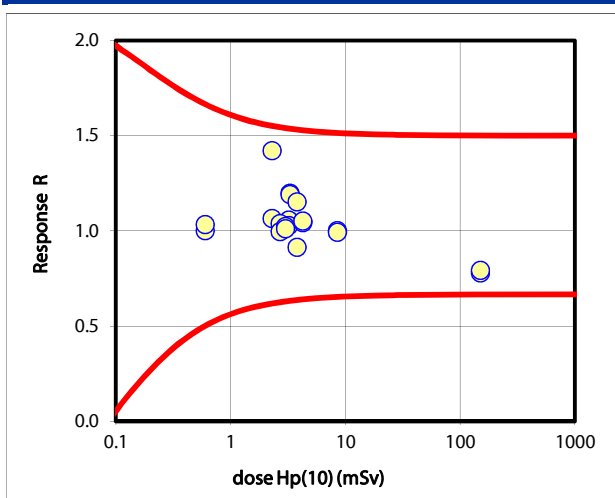
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 13 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.30	3.95	1.20	OK
	12	14/07/08	3.30	3.93	1.19	OK
N60-45°	17	17/07/08	2.30	2.45	1.07	OK
	18	17/07/08	2.30	3.27	1.42	OK
N150-45°	19	18/07/08	3.20	3.38	1.06	OK
	20	18/07/08	3.20	3.29	1.03	OK
S-Cs	1	09/07/08	0.60	0.60	1.00	OK
	2	09/07/08	0.60	0.62	1.03	OK
	3	11/07/08	2.70	2.80	1.04	OK
	4	11/07/08	2.70	2.69	1.00	OK
	5	11/07/08	3.00	3.07	1.02	OK
	6	11/07/08	3.00	3.03	1.01	OK
	7	11/07/08	8.50	8.50	1.00	OK
	8	11/07/08	8.50	8.44	0.99	OK
S-Co	9	21/07/08	150.00	116.77	0.78	OK
	10	21/07/08	150.00	118.81	0.79	OK
S-Cs+N60-0°	13	09/07/08	3.80	4.38	1.15	OK
	14	09/07/08	3.80	3.47	0.91	OK
	15	11/07/08	4.25	4.43	1.04	OK
	16	11/07/08	4.25	4.47	1.05	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.16		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.19</b>	1.19	1.20	1.19	0%
N60-45°	2	<b>1.24</b>	1.24	1.42	1.07	20%
N150-45°	2	<b>1.04</b>	1.04	1.06	1.03	2%
S-Cs	8	<b>1.01</b>	1.01	1.04	0.99	2%
S-Co	2	<b>0.79</b>	0.79	0.79	0.78	1%
S-Cs+N60-0°	4	<b>1.05</b>	1.04	1.15	0.91	9%
All	20	<b>1.03</b>	<b>1.04</b>	<b>1.42</b>	<b>0.78</b>	<b>14%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.03</b>



Results: IC2008

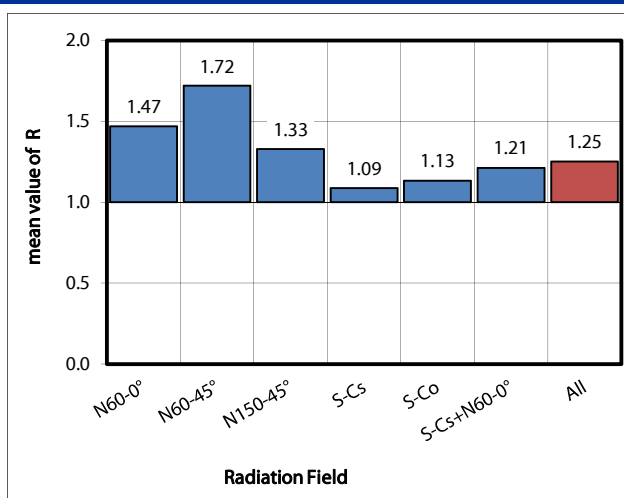
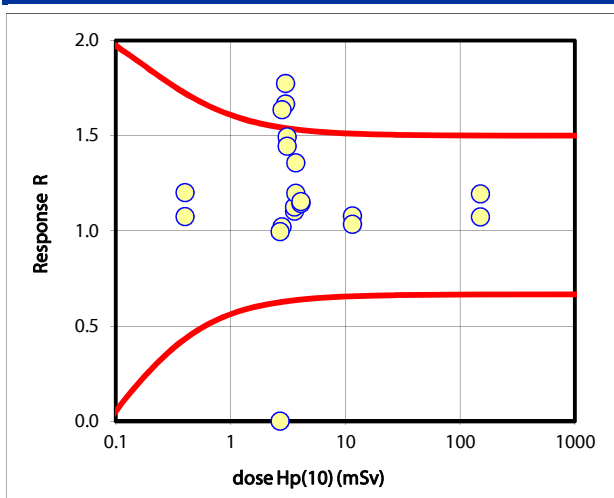
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 14 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	3.10	4.63	1.49	OK
	12	09/07/08	3.10	4.48	1.45	OK
N60-45°	17	17/07/08	3.00	5.32	1.77	outlier
	18	18/07/08	3.00	5.00	1.67	outlier
N150-45°	19	18/07/08	2.80	4.58	1.64	outlier
	20	18/07/08	2.80	2.86	1.02	OK
S-Cs	1	09/07/08	0.40	0.43	1.08	OK
	2	14/07/08	0.40	0.48	1.20	OK
	3	14/07/08	2.70	2.69	1.00	OK
	4	14/07/08	2.70	-	-	outlier
	5	14/07/08	3.60	3.97	1.10	OK
	6	14/07/08	3.60	4.05	1.13	OK
	7	14/07/08	11.50	12.40	1.08	OK
	8	21/07/08	11.50	11.90	1.03	OK
S-Co	9	21/07/08	150.00	161.00	1.07	OK
	10	15/07/08	150.00	179.00	1.19	OK
S-Cs+N60-0°	13	09/07/08	3.70	5.02	1.36	OK
	14	14/07/08	3.70	4.43	1.20	OK
	15	14/07/08	4.10	4.69	1.14	OK
	16	17/07/08	4.10	4.73	1.15	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.02		
	23	NIR		0.01		
	24	NIR		0.03		
	25	BGR		0.29		
	26	BGR		0.28		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.47	1.47	1.49	1.45	2%
N60-45°	2	1.72	1.72	1.77	1.67	4%
N150-45°	2	1.33	1.33	1.64	1.02	33%
S-Cs	7	1.08	1.09	1.20	1.00	6%
S-Co	2	1.13	1.13	1.19	1.07	7%
S-Cs+N60-0°	4	1.18	1.21	1.36	1.14	8%
All	19	1.15	1.25	1.77	1.00	24%

<b>Number of outliers:</b>	<b>4</b>	<b>Arithmetic mean value of all R:</b>	<b>1.25</b>
<b>Fraction of outliers:</b>	<b>20%</b>	<b>Median value of all R:</b>	<b>1.15</b>



Results: IC2008

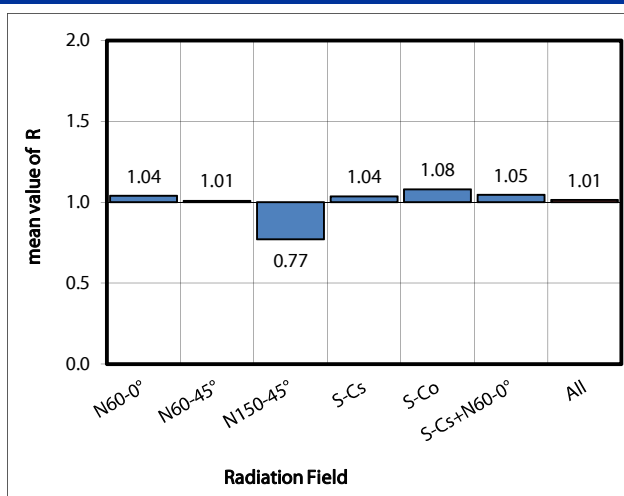
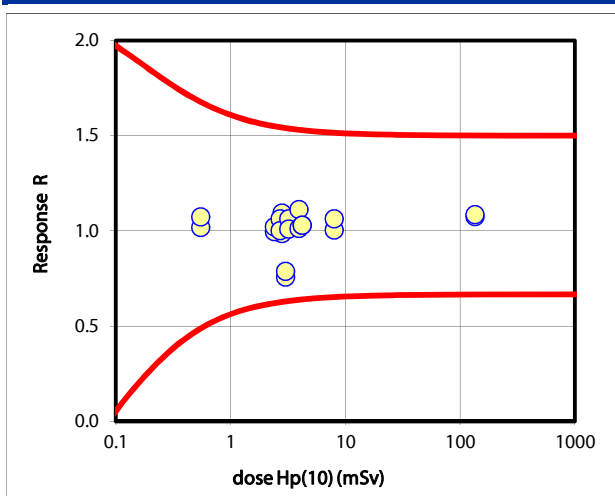
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 15 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.80	3.06	1.09	OK
	12	14/07/08	2.80	2.76	0.99	OK
N60-45°	17	17/07/08	2.40	2.39	1.00	OK
	18	17/07/08	2.40	2.45	1.02	OK
N150-45°	19	18/07/08	3.00	2.27	0.76	OK
	20	18/07/08	3.00	2.36	0.79	OK
S-Cs	1	09/07/08	0.55	0.56	1.02	OK
	2	09/07/08	0.55	0.59	1.07	OK
	3	10/07/08	2.70	2.87	1.06	OK
	4	10/07/08	2.70	2.70	1.00	OK
	5	10/07/08	3.20	3.40	1.06	OK
	6	10/07/08	3.20	3.23	1.01	OK
	7	10/07/08	8.00	8.03	1.00	OK
	8	10/07/08	8.00	8.50	1.06	OK
S-Co	9	21/07/08	135.00	144.99	1.07	OK
	10	21/07/08	135.00	146.36	1.08	OK
S-Cs+N60-0°	13	09/07/08	3.95	4.00	1.01	OK
	14	09/07/08	3.95	4.39	1.11	OK
	15	10/07/08	4.20	4.32	1.03	OK
	16	10/07/08	4.20	4.32	1.03	OK
not irradiated	21	NIR		0.01		
	22	NIR		0.03		
	23	NIR		0.02		
	24	NIR		0.02		
	25	BGR		0.07		
	26	BGR		0.05		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.04</b>	1.04	1.09	0.99	7%
N60-45°	2	<b>1.01</b>	1.01	1.02	1.00	2%
N150-45°	2	<b>0.77</b>	0.77	0.79	0.76	3%
S-Cs	8	<b>1.04</b>	1.04	1.07	1.00	3%
S-Co	2	<b>1.08</b>	1.08	1.08	1.07	1%
S-Cs+N60-0°	4	<b>1.03</b>	1.05	1.11	1.01	4%
All	20	<b>1.02</b>	<b>1.01</b>	<b>1.11</b>	<b>0.76</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.02</b>



Results: IC2008

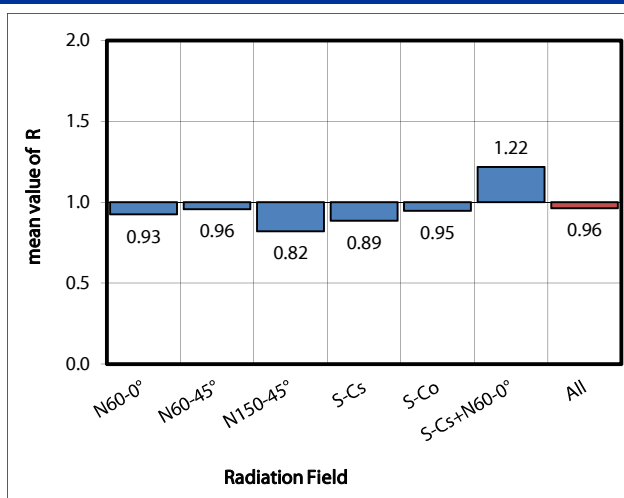
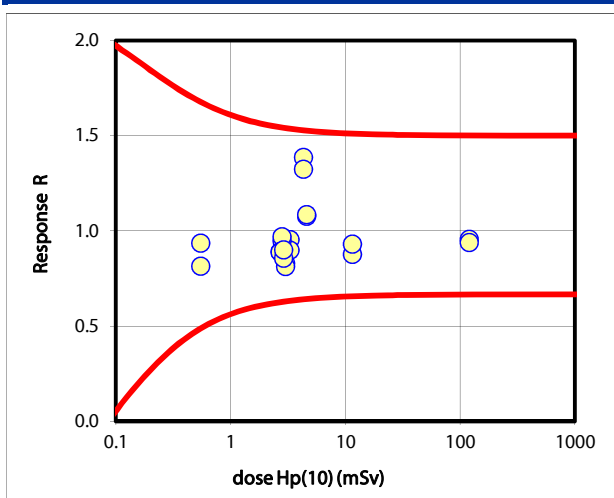
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 16 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.30	3.15	0.95	OK
	12	14/07/08	3.30	2.96	0.90	OK
N60-45°	17	16/07/08	2.80	2.65	0.95	OK
	18	16/07/08	2.80	2.71	0.97	OK
N150-45°	19	18/07/08	3.00	2.49	0.83	OK
	21	18/07/08	3.00	2.44	0.81	OK
S-Cs	1	09/07/08	0.55	0.51	0.93	OK
	3	10/07/08	2.70	2.40	0.89	OK
	4	10/07/08	2.70	2.40	0.89	OK
	5	10/07/08	2.90	2.48	0.86	OK
	6	10/07/08	2.90	2.61	0.90	OK
	7	14/07/08	11.50	10.07	0.88	OK
	8	14/07/08	11.50	10.69	0.93	OK
	20	09/07/08	0.55	0.45	0.81	OK
S-Co	9	21/07/08	120.00	114.62	0.96	OK
	10	21/07/08	120.00	112.65	0.94	OK
S-Cs+N60-0°	13	09/07/08	4.30	5.96	1.39	OK
	14	09/07/08	4.30	5.69	1.32	OK
	15	14/07/08	4.60	4.95	1.08	OK
	16	14/07/08	4.60	4.99	1.08	OK
not irradiated	2	NIR / WIR		0.02		
	22	NIR		0.00		
	23	NIR		-		
	24	NIR		0.01		
	25	BGR		0.16		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.93</b>	0.93	0.95	0.90	4%
N60-45°	2	<b>0.96</b>	0.96	0.97	0.95	2%
N150-45°	2	<b>0.82</b>	0.82	0.83	0.81	2%
S-Cs	8	<b>0.89</b>	0.89	0.93	0.81	4%
S-Co	2	<b>0.95</b>	0.95	0.96	0.94	1%
S-Cs+N60-0°	4	<b>1.20</b>	1.22	1.39	1.08	13%
All	20	<b>0.93</b>	<b>0.96</b>	<b>1.39</b>	<b>0.81</b>	<b>15%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.96</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.93</b>



Results: IC2008

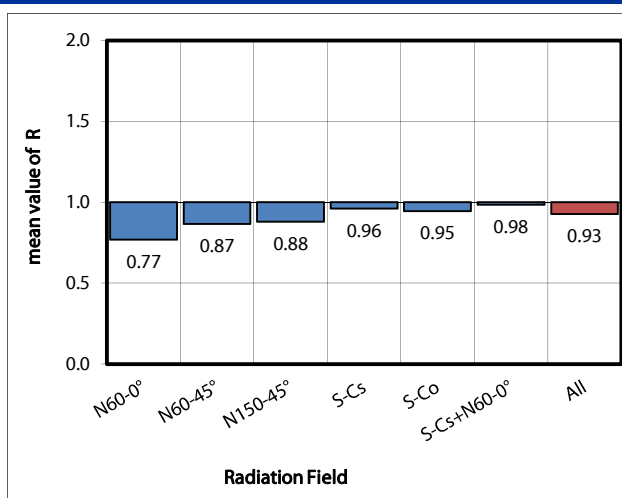
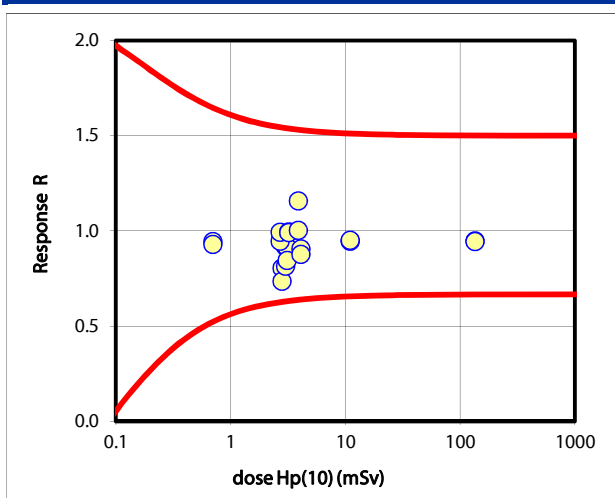
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 17 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.80	2.25	0.80	OK
	12	14/07/08	2.80	2.06	0.74	OK
N60-45°	17	17/07/08	3.00	2.44	0.81	OK
	18	17/07/08	3.00	2.75	0.92	OK
N150-45°	19	18/07/08	3.10	2.83	0.91	OK
	20	18/07/08	3.10	2.62	0.85	OK
S-Cs	1	09/07/08	0.70	0.66	0.94	OK
	2	09/07/08	0.70	0.65	0.93	OK
	3	11/07/08	2.70	2.55	0.94	OK
	4	11/07/08	2.70	2.68	0.99	OK
	5	11/07/08	3.20	3.18	0.99	OK
	6	11/07/08	3.20	3.17	0.99	OK
	7	11/07/08	11.00	10.40	0.95	OK
	8	11/07/08	11.00	10.46	0.95	OK
S-Co	9	21/07/08	135.00	127.92	0.95	OK
	10	21/07/08	135.00	127.45	0.94	OK
S-Cs+N60-0°	13	09/07/08	4.10	3.71	0.90	OK
	14	09/07/08	4.10	3.59	0.88	OK
	21	18/07/08	3.90	4.51	1.16	OK
	22	18/07/08	3.90	3.91	1.00	OK
not irradiated	15	WIR		3.82		
	16	WIR		3.79		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.77</b>	0.77	0.80	0.74	6%
N60-45°	2	<b>0.87</b>	0.87	0.92	0.81	8%
N150-45°	2	<b>0.88</b>	0.88	0.91	0.85	5%
S-Cs	8	<b>0.95</b>	0.96	0.99	0.93	3%
S-Co	2	<b>0.95</b>	0.95	0.95	0.94	0%
S-Cs+N60-0°	4	<b>0.95</b>	0.98	1.16	0.88	13%
All	20	<b>0.94</b>	<b>0.93</b>	<b>1.16</b>	<b>0.74</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.93</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

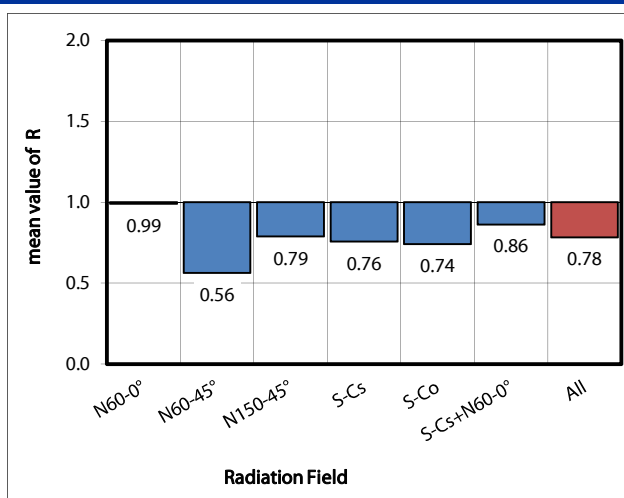
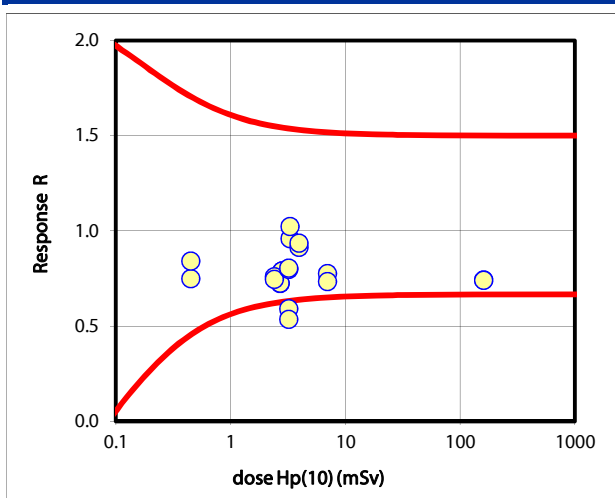
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 18 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.30	3.17	0.96	OK
	12	30/07/08	3.30	3.38	1.02	OK
N60-45°	17	31/07/08	3.20	1.89	0.59	outlier
	18	31/07/08	3.20	1.71	0.54	outlier
N150-45°	19	04/08/08	2.80	2.21	0.79	OK
	20	04/08/08	2.80	2.21	0.79	OK
S-Cs	1	24/07/08	0.45	0.34	0.75	OK
	2	24/07/08	0.45	0.38	0.84	OK
	3	28/07/08	2.70	1.95	0.72	OK
	4	28/07/08	2.70	1.96	0.72	OK
	5	28/07/08	2.40	1.82	0.76	OK
	6	28/07/08	2.40	1.79	0.75	OK
	7	28/07/08	7.00	5.43	0.78	OK
	8	28/07/08	7.00	5.14	0.73	OK
S-Co	9	04/08/08	160.00	118.60	0.74	OK
	10	04/08/08	160.00	118.50	0.74	OK
S-Cs+N60-0°	13	24/07/08	3.95	3.61	0.91	OK
	14	24/07/08	3.95	3.69	0.93	OK
	15	28/07/08	3.20	2.55	0.80	OK
	16	28/07/08	3.20	2.58	0.80	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.99</b>	0.99	1.02	0.96	5%
N60-45°	2	<b>0.56</b>	0.56	0.59	0.54	7%
N150-45°	2	<b>0.79</b>	0.79	0.79	0.79	0%
S-Cs	8	<b>0.75</b>	0.76	0.84	0.72	5%
S-Co	2	<b>0.74</b>	0.74	0.74	0.74	0%
S-Cs+N60-0°	4	<b>0.86</b>	0.86	0.93	0.80	8%
All	20	<b>0.77</b>	<b>0.78</b>	<b>1.02</b>	<b>0.54</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>0.78</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>0.77</b>



Results: IC2008

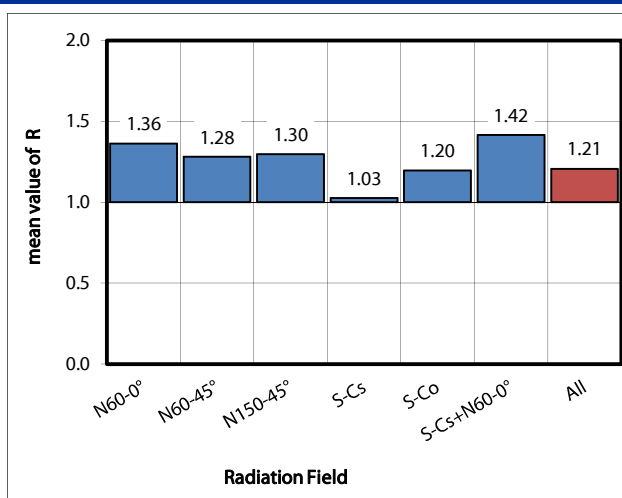
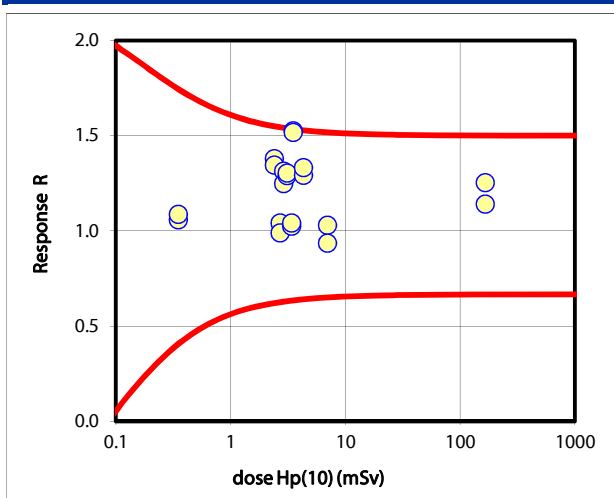
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 19 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.40	3.31	1.38	OK
	12	31/07/08	2.40	3.23	1.35	OK
N60-45°	17	01/08/08	2.90	3.81	1.31	OK
	18	01/08/08	2.90	3.62	1.25	OK
N150-45°	19	04/08/08	3.10	4.00	1.29	OK
	20	04/08/08	3.10	4.04	1.30	OK
S-Cs	1	24/07/08	0.35	0.37	1.06	OK
	2	24/07/08	0.35	0.38	1.09	OK
	3	29/07/08	2.70	2.81	1.04	OK
	4	29/07/08	2.70	2.67	0.99	OK
	5	29/07/08	3.40	3.48	1.02	OK
	6	29/07/08	3.40	3.54	1.04	OK
	7	29/07/08	7.00	7.20	1.03	OK
	8	29/07/08	7.00	6.55	0.94	OK
S-Co	9	04/08/08	165.00	206.72	1.25	OK
	10	04/08/08	165.00	188.09	1.14	OK
S-Cs+N60-0°	13	24/07/08	4.30	5.55	1.29	OK
	14	24/07/08	4.30	5.73	1.33	OK
	15	29/07/08	3.50	5.34	1.53	OK
	16	29/07/08	3.50	5.31	1.52	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.09		
	26	BGR		0.09		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.36</b>	1.36	1.38	1.35	2%
N60-45°	2	<b>1.28</b>	1.28	1.31	1.25	4%
N150-45°	2	<b>1.30</b>	1.30	1.30	1.29	1%
S-Cs	8	<b>1.03</b>	1.03	1.09	0.94	4%
S-Co	2	<b>1.20</b>	1.20	1.25	1.14	7%
S-Cs+N60-0°	4	<b>1.42</b>	1.42	1.53	1.29	9%
All	20	<b>1.25</b>	1.21	1.53	0.94	18%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.21</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.25</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

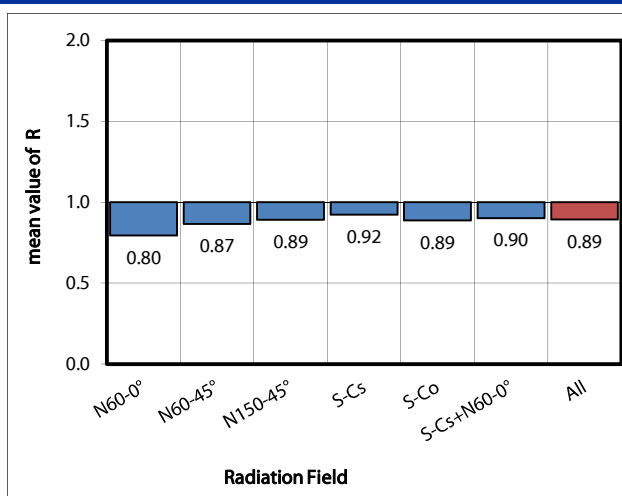
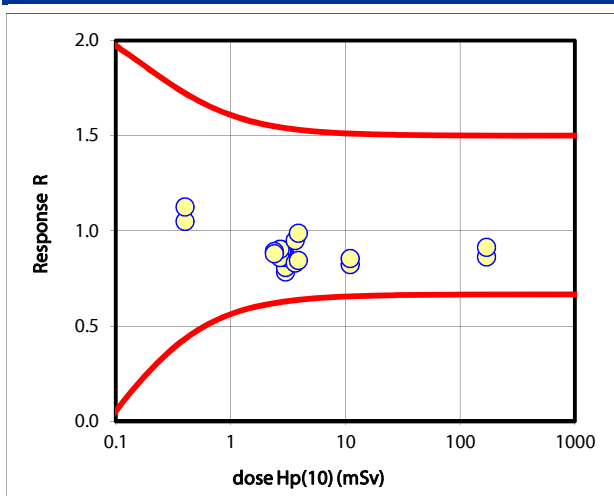


## Laboratory Nr. 20 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.00	2.35	0.78	OK
	12	30/07/08	3.00	2.42	0.81	OK
N60-45°	17	31/07/08	3.00	2.61	0.87	OK
	18	31/07/08	3.00	2.58	0.86	OK
N150-45°	19	04/08/08	2.80	2.47	0.88	OK
	20	04/08/08	2.80	2.52	0.90	OK
S-Cs	1	24/07/08	0.40	0.42	1.05	OK
	2	24/07/08	0.40	0.45	1.13	OK
	3	28/07/08	2.70	2.32	0.86	OK
	4	28/07/08	2.70	2.44	0.90	OK
	5	28/07/08	2.40	2.14	0.89	OK
	6	28/07/08	2.40	2.11	0.88	OK
	7	28/07/08	11.00	9.05	0.82	OK
	8	28/07/08	11.00	9.39	0.85	OK
S-Co	9	04/08/08	170.00	146.74	0.86	OK
	10	04/08/08	170.00	155.15	0.91	OK
S-Cs+N60-0°	13	24/07/08	3.65	3.03	0.83	OK
	14	24/07/08	3.65	3.46	0.95	OK
	15	28/07/08	3.90	3.29	0.84	OK
	16	28/07/08	3.90	3.85	0.99	OK
not irradiated	21	NIR		0.10		
	22	NIR		0.09		
	23	NIR		0.10		
	24	NIR		0.11		
	25	BGR		0.10		
	26	BGR		0.10		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.80</b>	0.80	0.81	0.78	2%
N60-45°	2	<b>0.87</b>	0.87	0.87	0.86	1%
N150-45°	2	<b>0.89</b>	0.89	0.90	0.88	1%
S-Cs	8	<b>0.89</b>	0.92	1.13	0.82	12%
S-Co	2	<b>0.89</b>	0.89	0.91	0.86	4%
S-Cs+N60-0°	4	<b>0.90</b>	0.90	0.99	0.83	9%
All	20	<b>0.87</b>	<b>0.89</b>	<b>1.13</b>	<b>0.78</b>	<b>8%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.89</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.87</b>



Results: IC2008

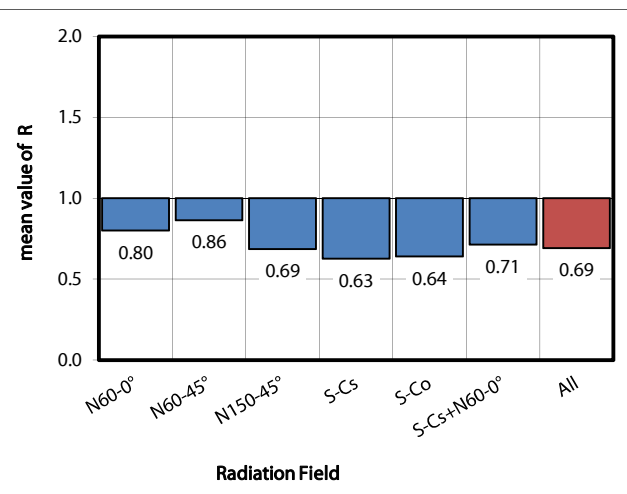
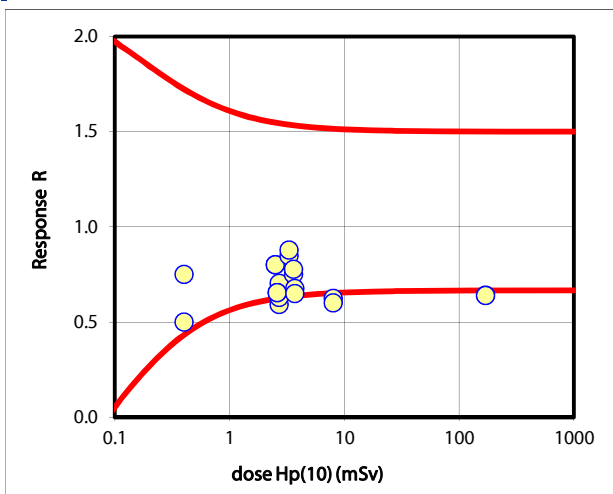
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 21 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.50	2.00	0.80	OK
	12	31/07/08	2.50	2.00	0.80	OK
N60-45°	17	01/08/08	3.30	2.80	0.85	OK
	18	01/08/08	3.30	2.90	0.88	OK
N150-45°	19	04/08/08	2.70	1.80	0.67	OK
	20	04/08/08	2.70	1.90	0.70	OK
S-Cs	1	25/07/08	0.40	0.30	0.75	OK
	2	25/07/08	0.40	0.20	0.50	OK
	3	29/07/08	2.70	1.60	0.59	outlier
	4	29/07/08	2.70	1.70	0.63	OK
	5	29/07/08	2.60	1.70	0.65	OK
	6	29/07/08	2.60	1.70	0.65	OK
	7	29/07/08	8.00	5.00	0.63	outlier
	8	29/07/08	8.00	4.80	0.60	outlier
S-Co	9	04/08/08	170.00	108.90	0.64	outlier
	10	04/08/08	170.00	108.70	0.64	outlier
S-Cs+N60-0°	13	25/07/08	3.60	2.70	0.75	OK
	14	25/07/08	3.60	2.80	0.78	OK
	15	29/07/08	3.70	2.50	0.68	OK
	16	29/07/08	3.70	2.40	0.65	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.80	0.80	0.80	0.80	0%
N60-45°	2	0.86	0.86	0.88	0.85	2%
N150-45°	2	0.69	0.69	0.70	0.67	4%
S-Cs	8	0.63	0.63	0.75	0.50	11%
S-Co	2	0.64	0.64	0.64	0.64	0%
S-Cs+N60-0°	4	0.71	0.71	0.78	0.65	9%
All	20	0.66	0.69	0.88	0.50	10%

<b>Number of outliers:</b>	<b>5</b>	<b>Arithmetic mean value of all R:</b>	<b>0.69</b>
<b>Fraction of outliers:</b>	<b>25%</b>	<b>Median value of all R:</b>	<b>0.66</b>



Results: IC2008

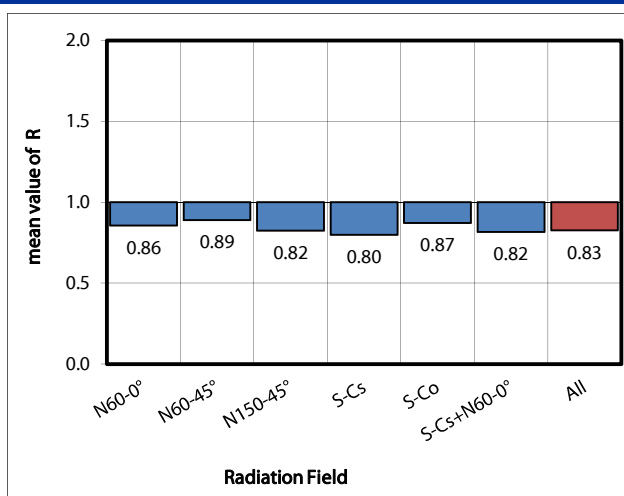
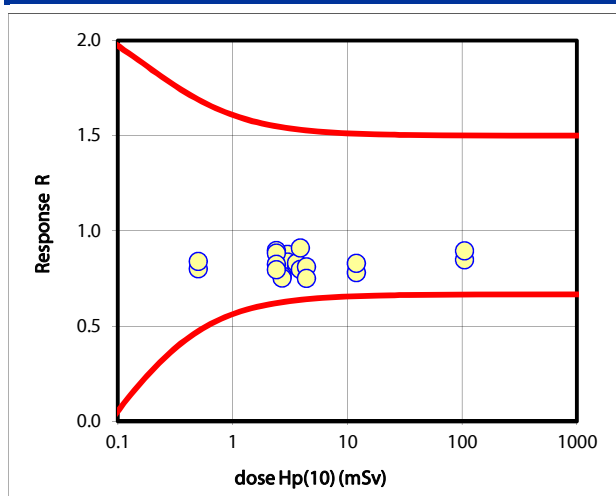
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 22 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.00	2.63	0.88	OK
	12	14/07/08	3.00	2.51	0.84	OK
N60-45°	17	17/07/08	2.40	2.15	0.90	OK
	18	17/07/08	2.40	2.12	0.88	OK
N150-45°	19	18/07/08	3.60	2.94	0.82	OK
	20	18/07/08	3.60	2.99	0.83	OK
S-Cs	1	09/07/08	0.50	0.40	0.80	OK
	2	09/07/08	0.50	0.42	0.84	OK
	3	10/07/08	2.70	2.06	0.76	OK
	4	10/07/08	2.70	2.03	0.75	OK
	5	10/07/08	2.40	1.98	0.83	OK
	6	10/07/08	2.40	1.91	0.80	OK
	7	10/07/08	12.00	9.37	0.78	OK
	8	10/07/08	12.00	9.95	0.83	OK
S-Co	9	21/07/08	105.00	89.05	0.85	OK
	10	21/07/08	105.00	93.93	0.89	OK
S-Cs+N60-0°	13	09/07/08	3.90	3.11	0.80	OK
	14	09/07/08	3.90	3.55	0.91	OK
	15	10/07/08	4.40	3.57	0.81	OK
	16	10/07/08	4.40	3.30	0.75	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.16		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.86</b>	0.86	0.88	0.84	3%
N60-45°	2	<b>0.89</b>	0.89	0.90	0.88	1%
N150-45°	2	<b>0.82</b>	0.82	0.83	0.82	1%
S-Cs	8	<b>0.80</b>	0.80	0.84	0.75	4%
S-Co	2	<b>0.87</b>	0.87	0.89	0.85	4%
S-Cs+N60-0°	4	<b>0.80</b>	0.82	0.91	0.75	8%
All	20	<b>0.83</b>	<b>0.83</b>	<b>0.91</b>	<b>0.75</b>	<b>5%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.83</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.83</b>



Results: IC2008

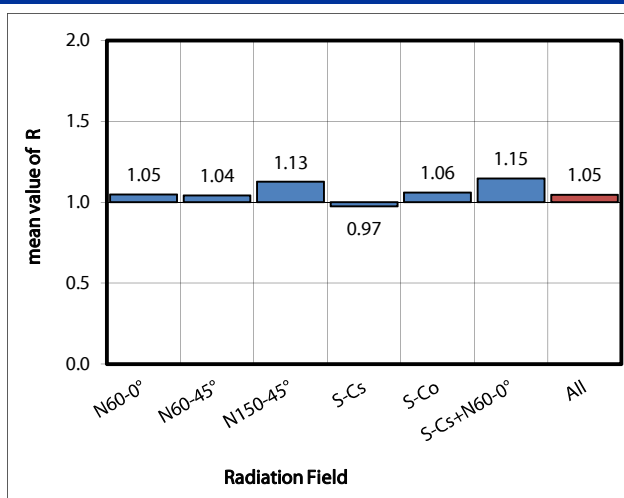
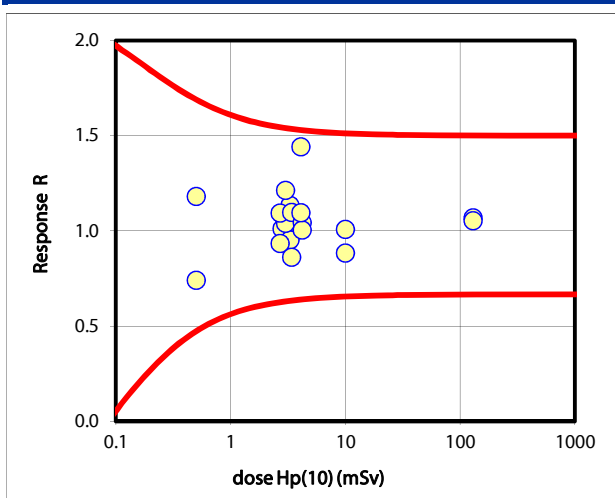
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 23 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.80	3.04	1.09	OK
	12	15/07/08	2.80	2.83	1.01	OK
N60-45°	17	17/07/08	3.30	3.14	0.95	OK
	18	17/07/08	3.30	3.74	1.13	OK
N150-45°	19	18/07/08	3.00	3.12	1.04	OK
	20	18/07/08	3.00	3.64	1.21	OK
S-Cs	1	09/07/08	0.50	0.37	0.74	OK
	2	09/07/08	0.50	0.59	1.18	OK
	3	12/07/08	2.70	2.95	1.09	OK
	4	12/07/08	2.70	2.52	0.93	OK
	5	12/07/08	3.40	2.93	0.86	OK
	6	12/07/08	3.40	3.73	1.10	OK
	7	12/07/08	10.00	10.08	1.01	OK
	8	12/07/08	10.00	8.83	0.88	OK
S-Co	9	21/07/08	130.00	138.75	1.07	OK
	10	21/07/08	130.00	136.95	1.05	OK
S-Cs+N60-0°	13	09/07/08	4.20	4.38	1.04	OK
	14	09/07/08	4.20	4.22	1.00	OK
	15	12/07/08	4.10	5.91	1.44	OK
	16	12/07/08	4.10	4.49	1.10	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.05	1.05	1.09	1.01	5%
N60-45°	2	1.04	1.04	1.13	0.95	12%
N150-45°	2	1.13	1.13	1.21	1.04	11%
S-Cs	8	0.97	0.97	1.18	0.74	15%
S-Co	2	1.06	1.06	1.07	1.05	1%
S-Cs+N60-0°	4	1.07	1.15	1.44	1.00	17%
All	20	1.05	1.05	1.44	0.74	14%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.05</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.05</b>



Results: IC2008

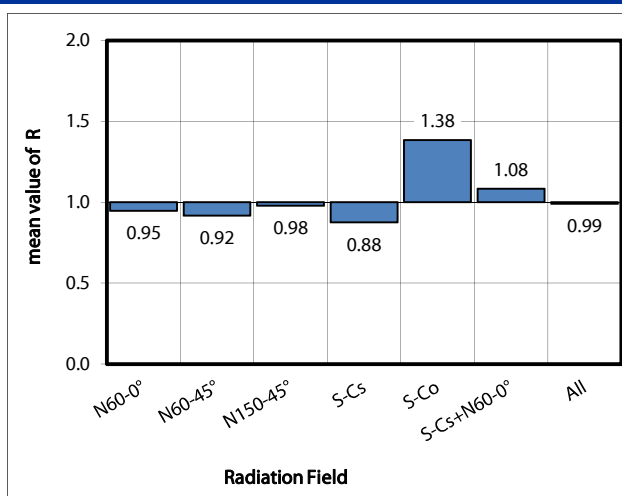
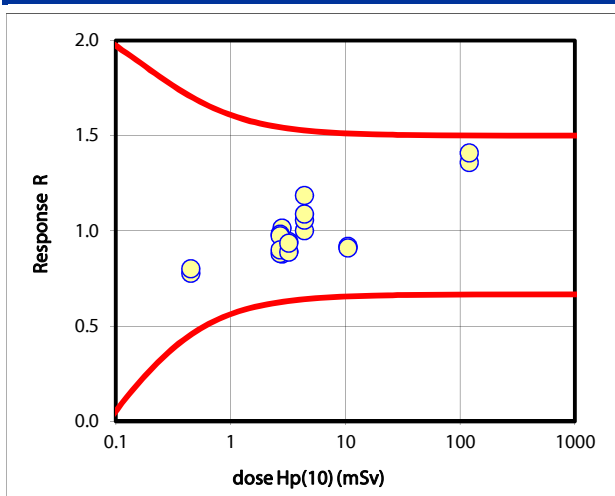
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 24 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.80	2.84	1.01	OK
	12	15/07/08	2.80	2.46	0.88	OK
N60-45°	17	17/07/08	3.20	3.02	0.94	OK
	18	17/07/08	3.20	2.85	0.89	OK
N150-45°	19	18/07/08	2.70	2.65	0.98	OK
	20	18/07/08	2.70	2.63	0.97	OK
S-Cs	1	09/07/08	0.45	0.35	0.78	OK
	2	09/07/08	0.45	0.36	0.80	OK
	3	12/07/08	2.70	2.38	0.88	OK
	4	12/07/08	2.70	2.43	0.90	OK
	5	12/07/08	3.20	2.84	0.89	OK
	6	12/07/08	3.20	2.99	0.93	OK
	7	12/07/08	10.50	9.64	0.92	OK
	8	12/07/08	10.50	9.55	0.91	OK
S-Co	9	21/07/08	120.00	162.95	1.36	OK
	10	21/07/08	120.00	169.09	1.41	OK
S-Cs+N60-0°	13	09/07/08	4.40	4.40	1.00	OK
	14	09/07/08	4.40	4.65	1.06	OK
	15	12/07/08	4.40	5.22	1.19	OK
	16	12/07/08	4.40	4.79	1.09	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.35		
	23	NIR		0.36		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.95</b>	0.95	1.01	0.88	10%
N60-45°	2	<b>0.92</b>	0.92	0.94	0.89	4%
N150-45°	2	<b>0.98</b>	0.98	0.98	0.97	1%
S-Cs	8	<b>0.89</b>	0.88	0.93	0.78	6%
S-Co	2	<b>1.38</b>	1.38	1.41	1.36	3%
S-Cs+N60-0°	4	<b>1.07</b>	1.08	1.19	1.00	7%
All	20	<b>0.94</b>	<b>0.99</b>	<b>1.41</b>	<b>0.78</b>	<b>16%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.99</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

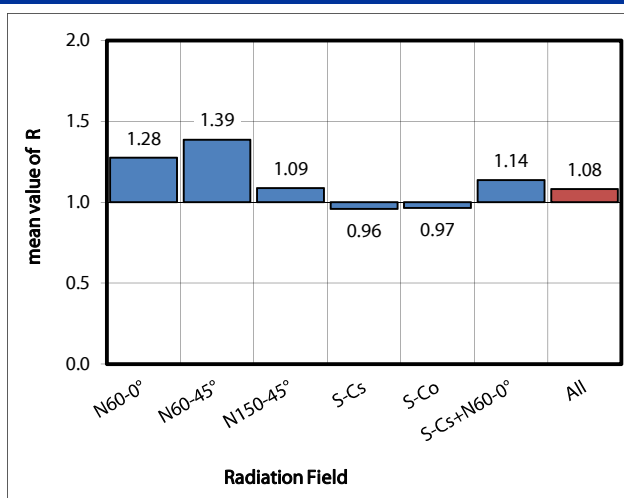
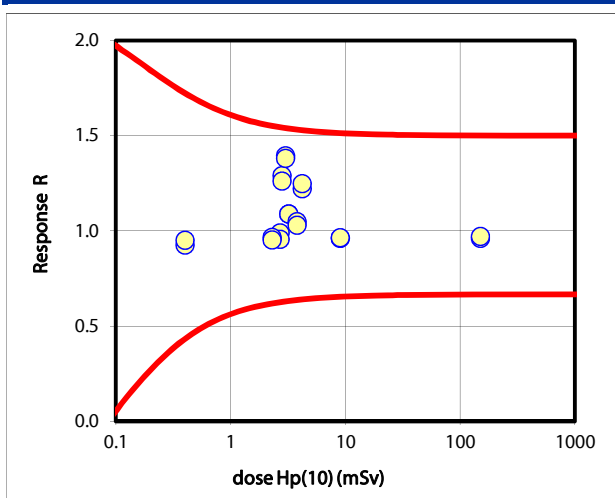
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 25 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.80	3.61	1.29	OK
	12	31/07/08	2.80	3.53	1.26	OK
N60-45°	17	01/08/08	3.00	4.18	1.39	OK
	18	01/08/08	3.00	4.14	1.38	OK
N150-45°	19	04/08/08	3.20	3.48	1.09	OK
	20	04/08/08	3.20	3.48	1.09	OK
S-Cs	1	25/07/08	0.40	0.37	0.93	OK
	2	25/07/08	0.40	0.38	0.95	OK
	3	29/07/08	2.70	2.67	0.99	OK
	4	29/07/08	2.70	2.58	0.96	OK
	6	29/07/08	2.30	2.22	0.97	OK
	7	29/07/08	9.00	8.65	0.96	OK
	8	29/07/08	9.00	8.68	0.96	OK
S-Co	9	04/08/08	150.00	143.98	0.96	OK
	10	04/08/08	150.00	145.57	0.97	OK
S-Cs+N60-0°	13	25/07/08	4.20	5.13	1.22	OK
	14	25/07/08	4.20	5.24	1.25	OK
	15	29/07/08	3.80	3.98	1.05	OK
	16	29/07/08	3.80	3.91	1.03	OK
not irradiated	5	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.28</b>	1.28	1.29	1.26	2%
N60-45°	2	<b>1.39</b>	1.39	1.39	1.38	1%
N150-45°	2	<b>1.09</b>	1.09	1.09	1.09	0%
S-Cs	8	<b>0.96</b>	0.96	0.99	0.93	2%
S-Co	2	<b>0.97</b>	0.97	0.97	0.96	1%
S-Cs+N60-0°	4	<b>1.13</b>	1.14	1.25	1.03	10%
All	20	<b>1.01</b>	<b>1.08</b>	<b>1.39</b>	<b>0.93</b>	<b>16%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.08</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

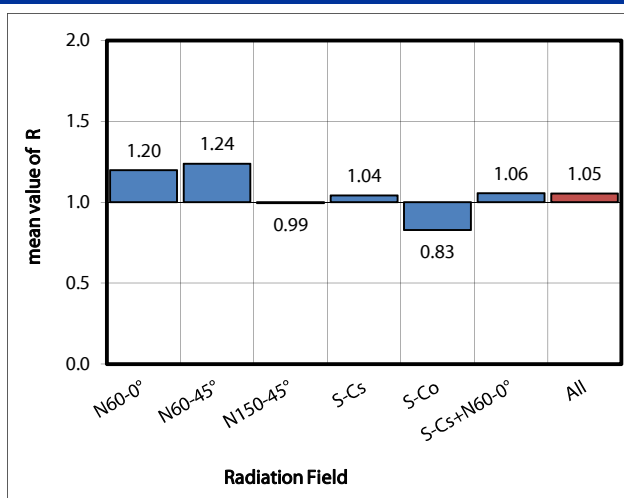
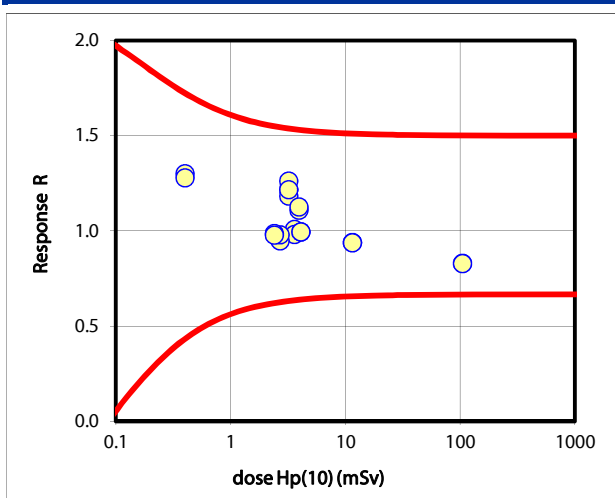
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 26 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.20	3.89	1.22	OK
	12	14/07/08	3.20	3.78	1.18	OK
N60-45°	17	17/07/08	3.20	4.04	1.26	OK
	18	17/07/08	3.20	3.89	1.22	OK
N150-45°	19	18/07/08	3.60	3.63	1.01	OK
	20	18/07/08	3.60	3.53	0.98	OK
S-Cs	1	09/07/08	0.40	0.52	1.30	OK
	2	09/07/08	0.40	0.51	1.28	OK
	3	10/07/08	2.70	2.56	0.95	OK
	4	10/07/08	2.70	2.64	0.98	OK
	5	10/07/08	2.40	2.37	0.99	OK
	6	10/07/08	2.40	2.34	0.98	OK
	7	10/07/08	11.50	10.80	0.94	OK
	8	10/07/08	11.50	11.50	0.94	OK
S-Co	9	21/07/08	105.00	87.04	0.83	OK
	10	21/07/08	105.00	86.91	0.83	OK
S-Cs+N60-0°	13	09/07/08	3.95	4.38	1.11	OK
	14	09/07/08	3.95	4.45	1.13	OK
	15	10/07/08	4.10	4.08	0.99	OK
	16	10/07/08	4.10	4.08	0.99	OK
not irradiated	21	NIR		0.14		
	22	NIR		0.16		
	23	NIR		0.16		
	24	NIR		0.15		
	25	BGR		0.15		
	26	BGR		0.14		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.20</b>	1.20	1.22	1.18	2%
N60-45°	2	<b>1.24</b>	1.24	1.26	1.22	3%
N150-45°	2	<b>0.99</b>	0.99	1.01	0.98	2%
S-Cs	8	<b>0.98</b>	1.04	1.30	0.94	15%
S-Co	2	<b>0.83</b>	0.83	0.83	0.83	0%
S-Cs+N60-0°	4	<b>1.05</b>	1.06	1.13	0.99	7%
All	20	<b>0.99</b>	1.05	1.30	0.83	15%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.05</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.99</b>



Results: IC2008

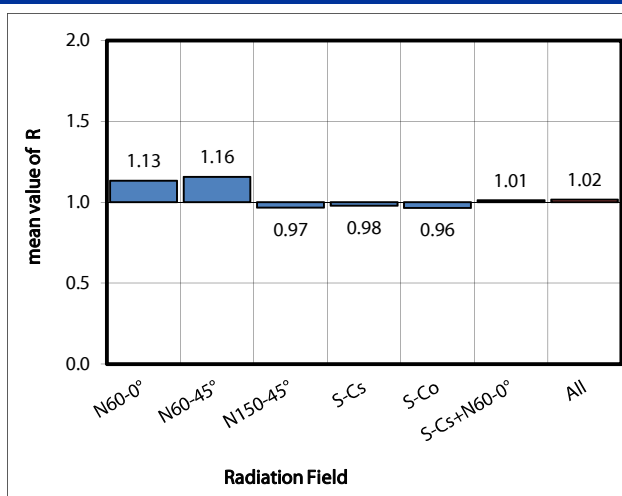
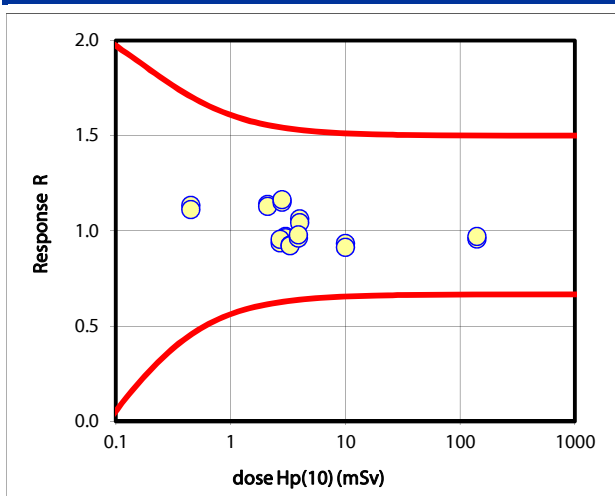
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 27 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.10	2.39	1.14	OK
	12	31/07/08	2.10	2.37	1.13	OK
N60-45°	17	01/08/08	2.80	3.22	1.15	OK
	18	01/08/08	2.80	3.26	1.16	OK
N150-45°	19	04/08/08	3.00	2.91	0.97	OK
	20	04/08/08	3.00	2.89	0.96	OK
S-Cs	1	25/07/08	0.45	0.51	1.13	OK
	2	25/07/08	0.45	0.50	1.11	OK
	3	29/07/08	2.70	2.53	0.94	OK
	4	29/07/08	2.70	2.58	0.96	OK
	5	29/07/08	3.30	3.05	0.92	OK
	6	29/07/08	3.30	3.04	0.92	OK
	7	29/07/08	10.00	9.33	0.93	OK
	8	29/07/08	10.00	9.13	0.91	OK
S-Co	9	04/08/08	140.00	134.02	0.96	OK
	10	04/08/08	140.00	135.96	0.97	OK
S-Cs+N60-0°	13	25/07/08	4.00	4.25	1.06	OK
	14	25/07/08	4.00	4.17	1.04	OK
	15	29/07/08	3.90	3.75	0.96	OK
	16	29/07/08	3.90	3.82	0.98	OK
not irradiated	21	NIR		0.07		
	22	NIR		0.09		
	23	NIR		0.09		
	24	NIR		0.10		
	25	BGR		0.07		
	26	BGR		0.08		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.13</b>	1.13	1.14	1.13	1%
N60-45°	2	<b>1.16</b>	1.16	1.16	1.15	1%
N150-45°	2	<b>0.97</b>	0.97	0.97	0.96	0%
S-Cs	8	<b>0.94</b>	0.98	1.13	0.91	9%
S-Co	2	<b>0.96</b>	0.96	0.97	0.96	1%
S-Cs+N60-0°	4	<b>1.01</b>	1.01	1.06	0.96	5%
All	20	<b>0.97</b>	<b>1.02</b>	<b>1.16</b>	<b>0.91</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.02</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.97</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

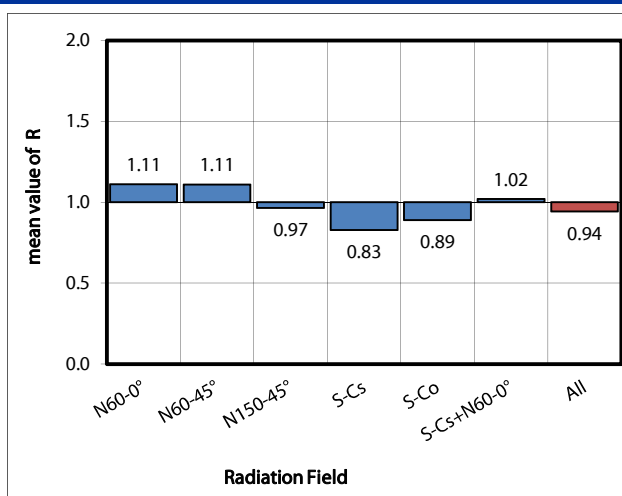
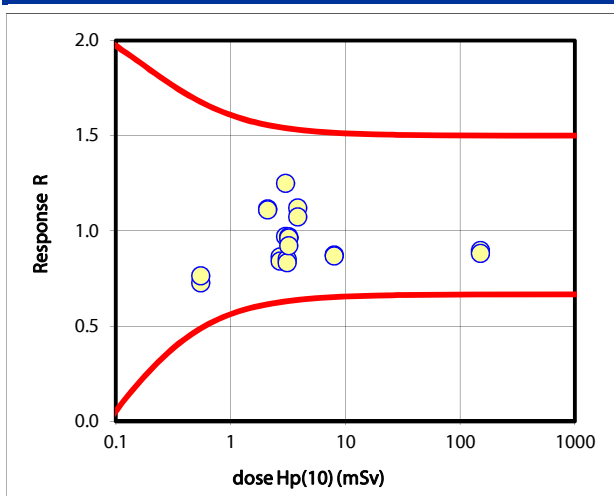


## Laboratory Nr. 28 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.10	2.34	1.11	OK
	12	30/07/08	2.10	2.33	1.11	OK
N60-45°	17	31/07/08	3.00	3.75	1.25	OK
	18	31/07/08	3.00	2.91	0.97	OK
N150-45°	19	04/08/08	3.20	3.08	0.96	OK
	20	04/08/08	3.20	3.10	0.97	OK
S-Cs	1	24/07/08	0.55	0.40	0.73	OK
	2	24/07/08	0.55	0.42	0.76	OK
	3	28/07/08	2.70	2.33	0.86	OK
	4	28/07/08	2.70	2.27	0.84	OK
	5	28/07/08	3.10	2.64	0.85	OK
	6	28/07/08	3.10	2.58	0.83	OK
	7	28/07/08	8.00	6.98	0.87	OK
	8	28/07/08	8.00	6.94	0.87	OK
S-Co	9	04/08/08	150.00	134.42	0.90	OK
	10	04/08/08	150.00	132.23	0.88	OK
S-Cs+N60-0°	13	24/07/08	3.85	4.31	1.12	OK
	14	24/07/08	3.85	4.13	1.07	OK
	15	28/07/08	3.20	3.08	0.96	OK
	16	28/07/08	3.20	2.95	0.92	OK
not irradiated	21	NIR		-0.09		
	22	NIR		-0.07		
	23	NIR		-0.08		
	24	NIR		-0.08		
	25	BGR		-0.08		
	26	BGR		-0.08		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.11	1.11	1.11	1.11	0%
N60-45°	2	1.11	1.11	1.25	0.97	18%
N150-45°	2	0.97	0.97	0.97	0.96	0%
S-Cs	8	0.85	0.83	0.87	0.73	6%
S-Co	2	0.89	0.89	0.90	0.88	1%
S-Cs+N60-0°	4	1.02	1.02	1.12	0.92	9%
All	20	0.91	0.94	1.25	0.73	13%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.94</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.91</b>



Results: IC2008

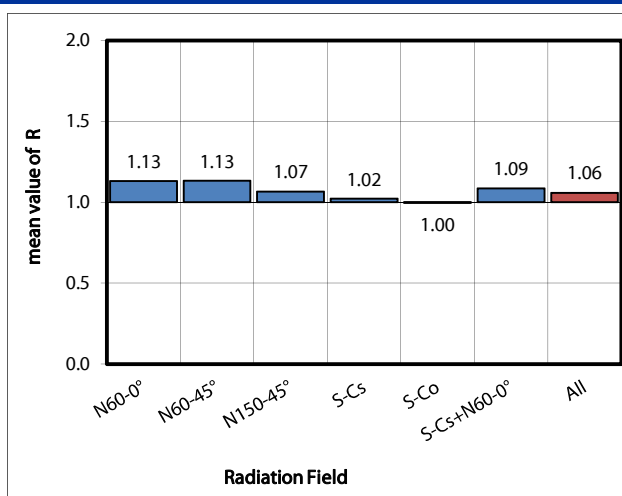
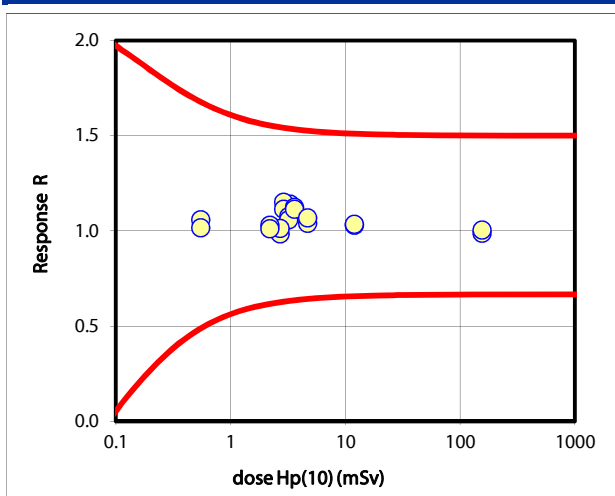
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 29 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	3.30	3.70	1.12	OK
	12	15/07/08	3.30	3.76	1.14	OK
N60-45°	17	17/07/08	2.90	3.34	1.15	OK
	18	17/07/08	2.90	3.23	1.11	OK
N150-45°	19	18/07/08	3.20	3.44	1.07	OK
	20	18/07/08	3.20	3.39	1.06	OK
S-Cs	1	09/07/08	0.55	0.58	1.06	OK
	2	09/07/08	0.55	0.56	1.02	OK
	3	11/07/08	2.70	2.66	0.98	OK
	4	11/07/08	2.70	2.73	1.01	OK
	5	11/07/08	2.20	2.26	1.03	OK
	6	11/07/08	2.20	2.22	1.01	OK
	7	11/07/08	12.00	12.34	1.03	OK
	8	11/07/08	12.00	12.41	1.03	OK
S-Co	9	21/07/08	155.00	153.01	0.99	OK
	10	21/07/08	155.00	155.73	1.00	OK
S-Cs+N60-0°	13	09/07/08	3.60	4.05	1.12	OK
	14	09/07/08	3.60	4.01	1.11	OK
	15	11/07/08	4.70	4.89	1.04	OK
	16	11/07/08	4.70	5.02	1.07	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.20		
	26	BGR		0.22		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.13</b>	1.13	1.14	1.12	1%
N60-45°	2	<b>1.13</b>	1.13	1.15	1.11	2%
N150-45°	2	<b>1.07</b>	1.07	1.07	1.06	1%
S-Cs	8	<b>1.02</b>	1.02	1.06	0.98	2%
S-Co	2	<b>1.00</b>	1.00	1.00	0.99	1%
S-Cs+N60-0°	4	<b>1.09</b>	1.09	1.12	1.04	4%
All	20	<b>1.05</b>	<b>1.06</b>	<b>1.15</b>	<b>0.98</b>	<b>5%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.06</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.05</b>



Results: IC2008

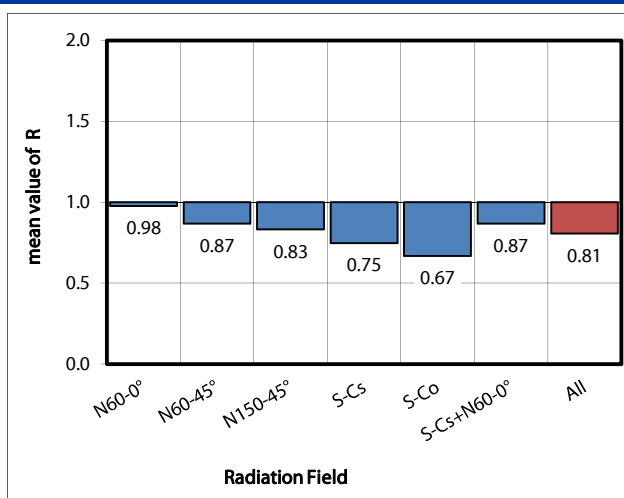
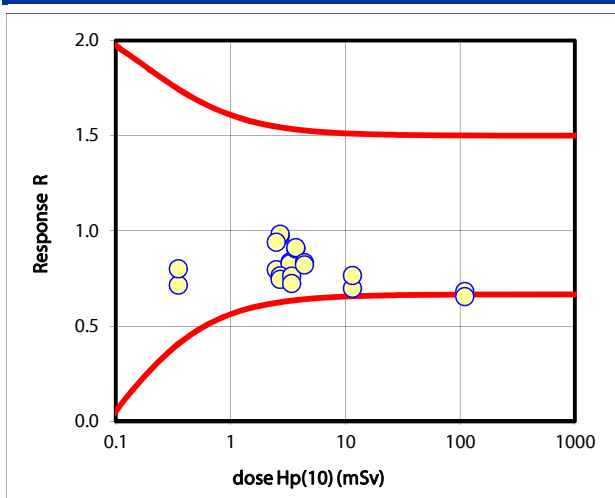
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 30 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	21	18/07/08	2.70	2.62	0.97	OK
	22	18/07/08	2.70	2.65	0.98	OK
N60-45°	17	17/07/08	2.50	2.35	0.94	OK
	18	17/07/08	2.50	1.99	0.80	OK
N150-45°	19	17/07/08	3.30	2.76	0.84	OK
	20	17/07/08	3.30	2.73	0.83	OK
S-Cs	1	09/07/08	0.35	0.25	0.71	OK
	2	09/07/08	0.35	0.28	0.80	OK
	3	10/07/08	2.70	2.06	0.76	OK
	4	10/07/08	2.70	2.01	0.74	OK
	5	10/07/08	3.40	2.59	0.76	OK
	6	10/07/08	3.40	2.46	0.72	OK
	7	10/07/08	11.50	8.03	0.70	OK
	8	10/07/08	11.50	8.80	0.77	OK
S-Co	9	21/07/08	110.00	75.03	0.68	OK
	10	21/07/08	110.00	72.03	0.65	outlier
S-Cs+N60-0°	13	09/07/08	3.70	3.35	0.91	OK
	14	09/07/08	3.70	3.37	0.91	OK
	15	10/07/08	4.40	3.66	0.83	OK
	16	10/07/08	4.40	3.61	0.82	OK
not irradiated	11	WIR		2.66		
	12	WIR		2.72		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.26		
	26	BGR		0.28		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.98</b>	0.98	0.98	0.97	1%
N60-45°	2	<b>0.87</b>	0.87	0.94	0.80	12%
N150-45°	2	<b>0.83</b>	0.83	0.84	0.83	1%
S-Cs	8	<b>0.75</b>	0.75	0.80	0.70	4%
S-Co	2	<b>0.67</b>	0.67	0.68	0.65	3%
S-Cs+N60-0°	4	<b>0.87</b>	0.87	0.91	0.82	5%
All	20	<b>0.80</b>	<b>0.81</b>	<b>0.98</b>	<b>0.65</b>	<b>10%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.81</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.80</b>



Results: IC2008

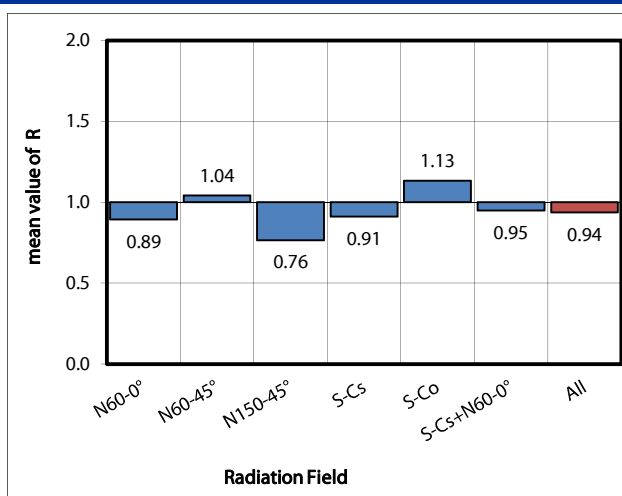
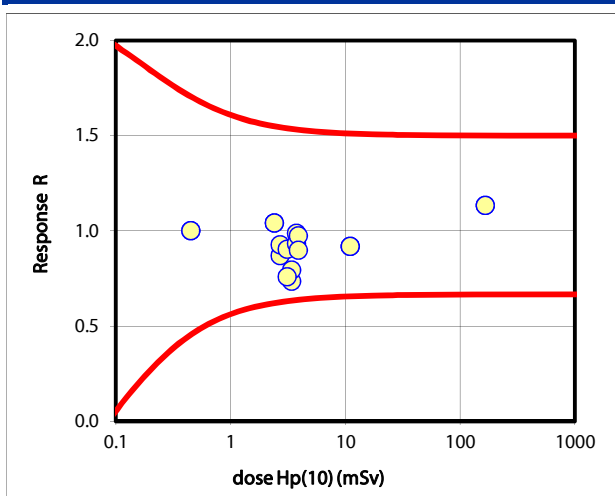
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 31 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.80	2.50	0.89	OK
	12	14/07/08	2.80	2.50	0.89	OK
N60-45°	17	16/07/08	2.40	2.50	1.04	OK
	18	16/07/08	2.40	2.50	1.04	OK
N150-45°	19	18/07/08	3.40	2.50	0.74	OK
	20	18/07/08	3.40	2.70	0.79	OK
S-Cs	1	09/07/08	0.45	0.45	1.00	OK
	2	09/07/08	0.45	0.45	1.00	OK
	3	10/07/08	2.70	2.35	0.87	OK
	4	10/07/08	2.70	2.50	0.93	OK
	5	10/07/08	3.10	2.35	0.76	OK
	6	10/07/08	3.10	2.80	0.90	OK
	7	10/07/08	11.00	10.10	0.92	OK
	8	10/07/08	11.00	10.10	0.92	OK
S-Co	9	21/07/08	165.00	187.00	1.13	OK
	10	21/07/08	165.00	187.00	1.13	OK
S-Cs+N60-0°	13	09/07/08	3.75	3.70	0.99	OK
	14	09/07/08	3.75	3.50	0.93	OK
	15	10/07/08	3.90	3.80	0.97	OK
	16	10/07/08	3.90	3.50	0.90	OK
not irradiated	21	NIR		0.05		
	22	NIR		0.05		
	23	NIR		0.05		
	24	NIR		0.05		
	25	BGR		0.05		
	26	BGR		0.05		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.89</b>	0.89	0.89	0.89	0%
N60-45°	2	<b>1.04</b>	1.04	1.04	1.04	0%
N150-45°	2	<b>0.76</b>	0.76	0.79	0.74	5%
S-Cs	8	<b>0.92</b>	0.91	1.00	0.76	8%
S-Co	2	<b>1.13</b>	1.13	1.13	1.13	0%
S-Cs+N60-0°	4	<b>0.95</b>	0.95	0.99	0.90	4%
All	20	<b>0.92</b>	<b>0.94</b>	<b>1.13</b>	<b>0.74</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.94</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.92</b>



Results: IC2008

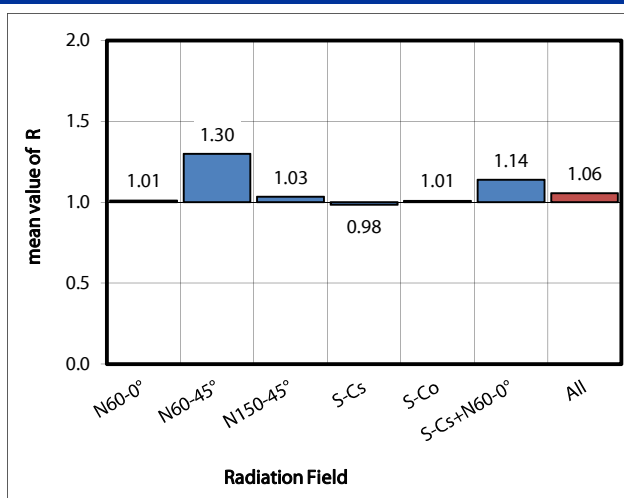
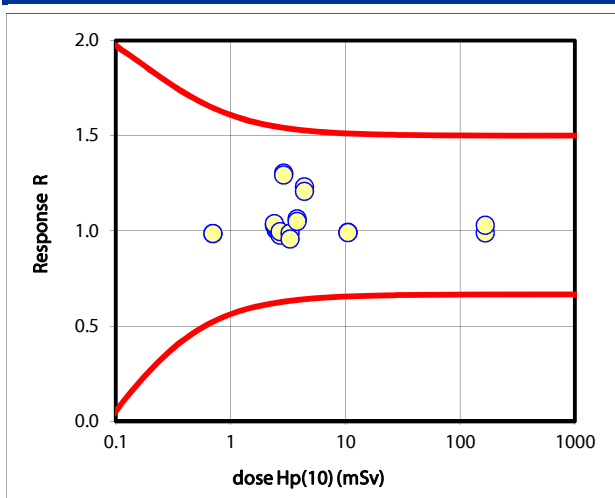
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 32 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.50	2.51	1.00	OK
	12	30/07/08	2.50	2.54	1.02	OK
N60-45°	17	31/07/08	2.90	3.78	1.30	OK
	18	31/07/08	2.90	3.75	1.29	OK
N150-45°	19	01/08/08	2.40	2.47	1.03	OK
	20	01/08/08	2.40	2.49	1.04	OK
S-Cs	1	23/07/08	0.70	0.69	0.99	OK
	2	23/07/08	0.70	0.69	0.99	OK
	3	26/07/08	2.70	2.64	0.98	OK
	4	26/07/08	2.70	2.69	1.00	OK
	5	26/07/08	3.30	3.26	0.99	OK
	6	26/07/08	3.30	3.16	0.96	OK
	7	26/07/08	10.50	10.42	0.99	OK
	8	26/07/08	10.50	10.41	0.99	OK
S-Co	9	04/08/08	165.00	163.12	0.99	OK
	10	04/08/08	165.00	169.84	1.03	OK
S-Cs+N60-0°	13	23/07/08	4.40	5.42	1.23	OK
	14	23/07/08	4.40	5.31	1.21	OK
	15	26/07/08	3.80	4.04	1.06	OK
	16	26/07/08	3.80	3.99	1.05	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.01	1.01	1.02	1.00	1%
N60-45°	2	1.30	1.30	1.30	1.29	1%
N150-45°	2	1.03	1.03	1.04	1.03	1%
S-Cs	8	0.99	0.98	1.00	0.96	1%
S-Co	2	1.01	1.01	1.03	0.99	3%
S-Cs+N60-0°	4	1.13	1.14	1.23	1.05	8%
All	20	1.01	1.06	1.30	0.96	11%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.06</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

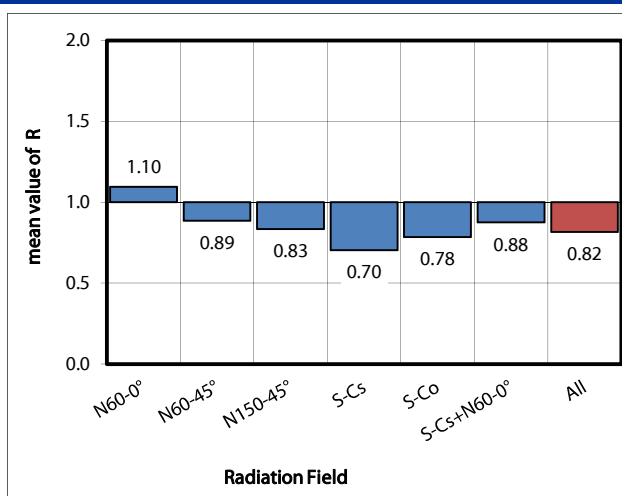
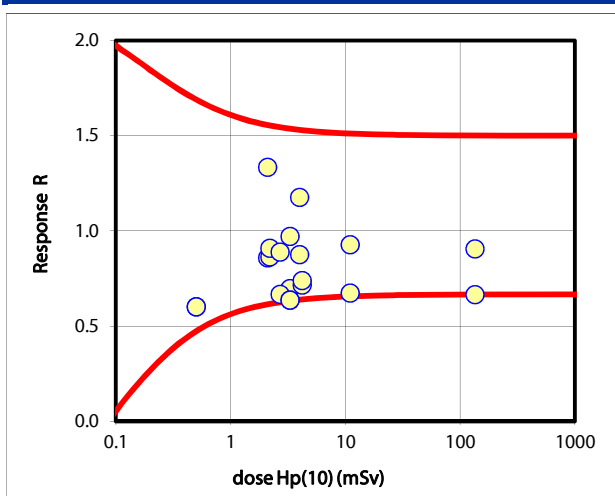
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 33 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.10	1.80	0.86	OK
	12	31/07/08	2.10	2.80	1.33	OK
N60-45°	17	01/08/08	2.20	1.90	0.86	OK
	18	01/08/08	2.20	2.00	0.91	OK
N150-45°	19	04/08/08	3.30	2.30	0.70	OK
	20	04/08/08	3.30	3.20	0.97	OK
S-Cs	1	24/07/08	0.50	0.30	0.60	OK
	2	24/07/08	0.50	0.30	0.60	OK
	3	29/07/08	2.70	2.40	0.89	OK
	4	29/07/08	2.70	1.80	0.67	OK
	5	29/07/08	3.30	2.10	0.64	OK
	6	29/07/08	3.30	2.10	0.64	OK
	7	29/07/08	11.00	7.40	0.67	OK
	8	29/07/08	11.00	10.20	0.93	OK
S-Co	9	04/08/08	135.00	122.20	0.91	OK
	10	04/08/08	135.00	89.60	0.66	outlier
S-Cs+N60-0°	13	24/07/08	4.00	3.50	0.88	OK
	14	24/07/08	4.00	4.70	1.18	OK
	15	29/07/08	4.20	3.00	0.71	OK
	16	29/07/08	4.20	3.10	0.74	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.10</b>	1.10	1.33	0.86	31%
N60-45°	2	<b>0.89</b>	0.89	0.91	0.86	4%
N150-45°	2	<b>0.83</b>	0.83	0.97	0.70	23%
S-Cs	8	<b>0.65</b>	0.70	0.93	0.60	18%
S-Co	2	<b>0.78</b>	0.78	0.91	0.66	22%
S-Cs+N60-0°	4	<b>0.81</b>	0.88	1.18	0.71	24%
All	20	<b>0.80</b>	<b>0.82</b>	<b>1.33</b>	<b>0.60</b>	<b>19%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.82</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.80</b>



Results: IC2008

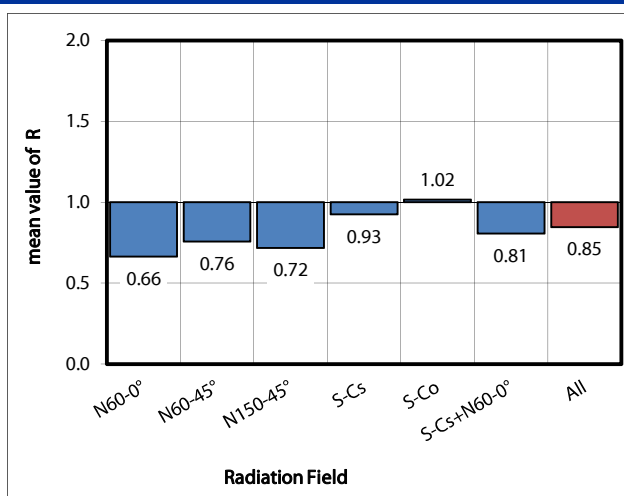
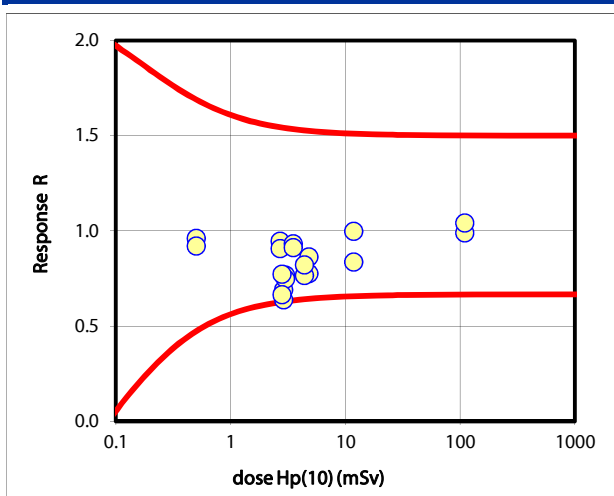
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 34 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.90	2.00	0.69	OK
	12	15/07/08	2.90	1.85	0.64	OK
N60-45°	17	17/07/08	3.00	2.30	0.77	OK
	18	17/07/08	3.00	2.24	0.75	OK
N150-45°	19	18/07/08	2.80	2.16	0.77	OK
	20	18/07/08	2.80	1.86	0.66	OK
S-Cs	1	09/07/08	0.50	0.48	0.96	OK
	2	09/07/08	0.50	0.46	0.92	OK
	3	12/07/08	2.70	2.55	0.94	OK
	4	12/07/08	2.70	2.45	0.91	OK
	5	12/07/08	3.50	3.26	0.93	OK
	6	12/07/08	3.50	3.19	0.91	OK
	7	12/07/08	11.80	11.76	1.00	OK
	8	12/07/08	11.80	9.86	0.84	OK
S-Co	9	21/07/08	110.00	108.84	0.99	OK
	10	21/07/08	110.00	114.53	1.04	OK
S-Cs+N60-0°	15	12/07/08	4.80	4.14	0.86	OK
	16	12/07/08	4.80	3.72	0.78	OK
	21	14/07/08	4.40	3.37	0.77	OK
	22	14/07/08	4.40	3.61	0.82	OK
not irradiated	13	WIR		2.18		
	14	WIR		1.91		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.66</b>	0.66	0.69	0.64	6%
N60-45°	2	<b>0.76</b>	0.76	0.77	0.75	2%
N150-45°	2	<b>0.72</b>	0.72	0.77	0.66	11%
S-Cs	8	<b>0.93</b>	0.93	1.00	0.84	5%
S-Co	2	<b>1.02</b>	1.02	1.04	0.99	4%
S-Cs+N60-0°	4	<b>0.80</b>	0.81	0.86	0.77	6%
All	20	<b>0.85</b>	<b>0.85</b>	<b>1.04</b>	<b>0.64</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.85</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.85</b>



Results: IC2008

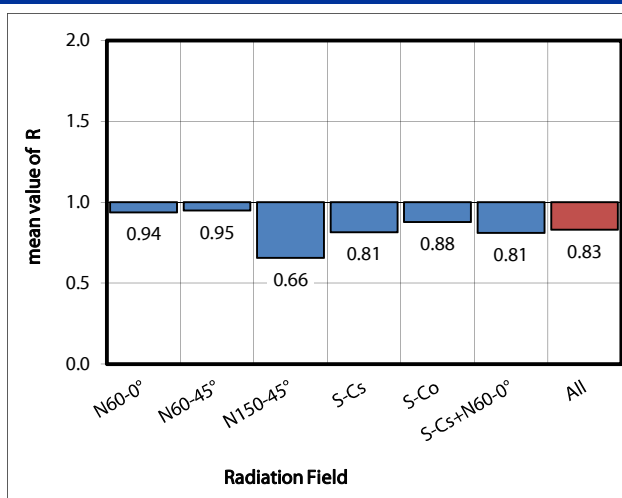
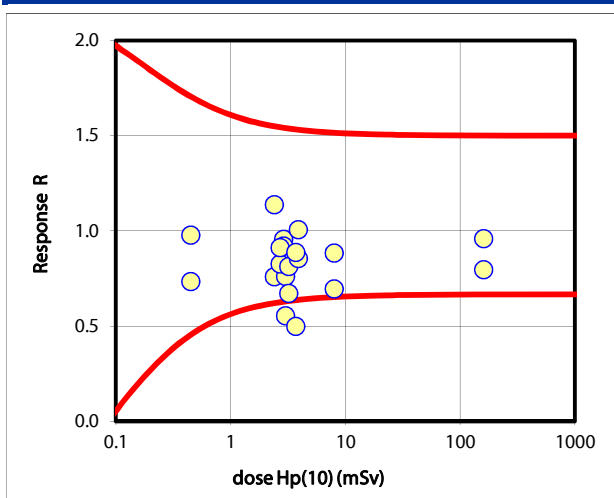
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 35 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	2.90	2.77	0.96	OK
	12	29/07/08	2.90	2.67	0.92	OK
N60-45°	17	31/07/08	2.40	2.73	1.14	OK
	18	31/07/08	2.40	1.82	0.76	OK
N150-45°	19	01/08/08	3.00	2.28	0.76	OK
	20	01/08/08	3.00	1.66	0.55	outlier
S-Cs	1	23/07/08	0.45	0.44	0.98	OK
	2	23/07/08	0.45	0.33	0.73	OK
	3	25/07/08	2.70	2.23	0.83	OK
	4	25/07/08	2.70	2.46	0.91	OK
	5	25/07/08	3.20	2.60	0.81	OK
	6	25/07/08	3.20	2.15	0.67	OK
	7	25/07/08	8.00	7.06	0.88	OK
	8	25/07/08	8.00	5.56	0.70	OK
S-Co	9	04/08/08	160.00	153.51	0.96	OK
	10	04/08/08	160.00	127.38	0.80	OK
S-Cs+N60-0°	13	23/07/08	3.90	3.33	0.85	OK
	14	23/07/08	3.90	3.92	1.01	OK
	15	25/07/08	3.70	3.28	0.89	OK
	16	25/07/08	3.70	1.84	0.50	outlier
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.94</b>	0.94	0.96	0.92	3%
N60-45°	2	<b>0.95</b>	0.95	1.14	0.76	28%
N150-45°	2	<b>0.66</b>	0.66	0.76	0.55	22%
S-Cs	8	<b>0.82</b>	0.81	0.98	0.67	13%
S-Co	2	<b>0.88</b>	0.88	0.96	0.80	13%
S-Cs+N60-0°	4	<b>0.87</b>	0.81	1.01	0.50	27%
All	20	<b>0.84</b>	<b>0.83</b>	<b>1.14</b>	<b>0.50</b>	<b>15%</b>

<b>Number of outliers:</b> 2	<b>Arithmetic mean value of all R:</b> 0.83
<b>Fraction of outliers:</b> 10%	<b>Median value of all R:</b> 0.84



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

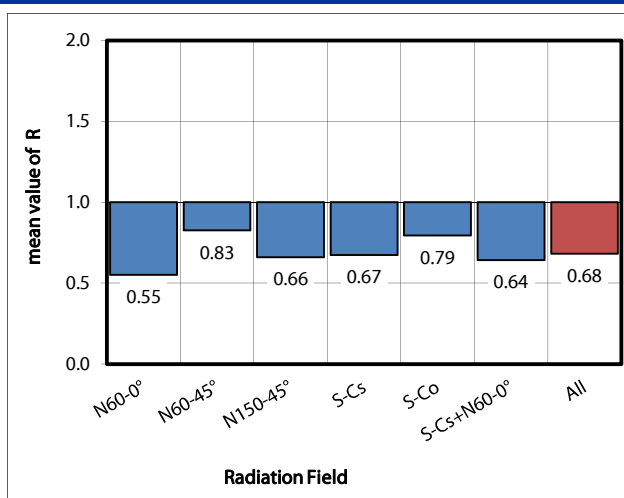
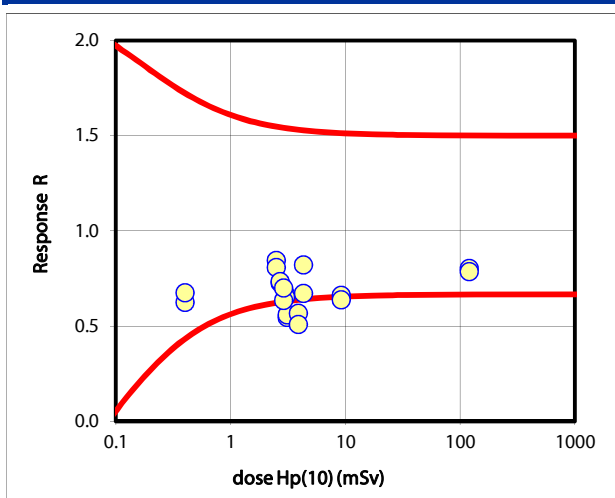


## Laboratory Nr. 36 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.10	1.69	0.55	outlier
	12	14/07/08	3.10	1.73	0.56	outlier
N60-45°	17	17/07/08	2.50	2.11	0.84	OK
	18	17/07/08	2.50	2.02	0.81	OK
N150-45°	19	18/07/08	3.00	2.00	0.67	OK
	20	18/07/08	3.00	1.96	0.65	OK
S-Cs	1	09/07/08	0.40	0.25	0.63	OK
	2	09/07/08	0.40	0.27	0.68	OK
	3	11/07/08	2.70	1.96	0.73	OK
	4	11/07/08	2.70	1.98	0.73	OK
	5	11/07/08	2.90	1.84	0.63	OK
	6	11/07/08	2.90	2.03	0.70	OK
	7	11/07/08	9.20	6.08	0.66	OK
	8	11/07/08	9.20	5.86	0.64	outlier
S-Co	9	21/07/08	120.00	96.28	0.80	OK
	10	21/07/08	120.00	94.28	0.79	OK
S-Cs+N60-0°	13	09/07/08	4.30	2.89	0.67	OK
	14	09/07/08	4.30	3.53	0.82	OK
	15	11/07/08	3.90	2.21	0.57	outlier
	16	11/07/08	3.90	1.98	0.51	outlier
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.55</b>	0.55	0.56	0.55	2%
N60-45°	2	<b>0.83</b>	0.83	0.84	0.81	3%
N150-45°	2	<b>0.66</b>	0.66	0.67	0.65	1%
S-Cs	8	<b>0.67</b>	0.67	0.73	0.63	6%
S-Co	2	<b>0.79</b>	0.79	0.80	0.79	1%
S-Cs+N60-0°	4	<b>0.62</b>	0.64	0.82	0.51	21%
All	20	<b>0.67</b>	<b>0.68</b>	<b>0.84</b>	<b>0.51</b>	<b>10%</b>

<b>Number of outliers:</b>	<b>5</b>	<b>Arithmetic mean value of all R:</b>	<b>0.68</b>
<b>Fraction of outliers:</b>	<b>25%</b>	<b>Median value of all R:</b>	<b>0.67</b>



Results: IC2008

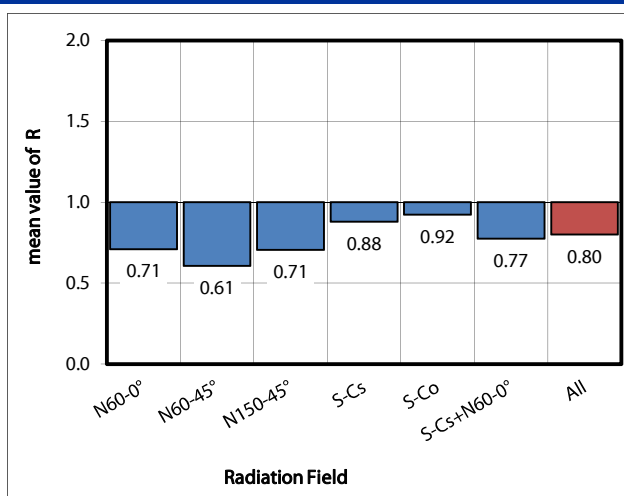
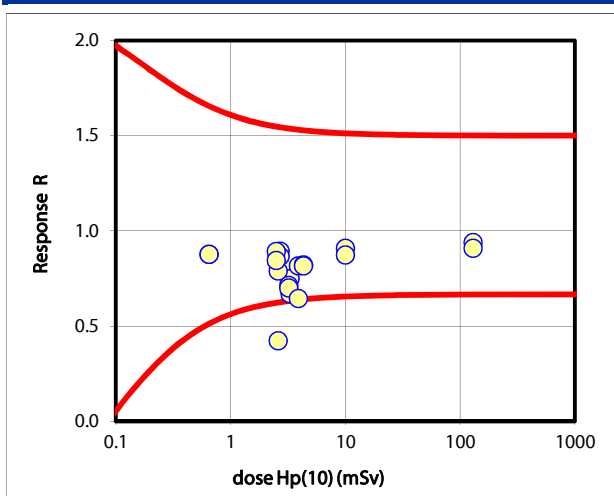
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 37 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.30	2.47	0.75	OK
	12	30/07/08	3.30	2.21	0.67	OK
N60-45°	17	31/07/08	2.60	2.05	0.79	OK
	18	31/07/08	2.60	1.10	0.42	outlier
N150-45°	19	04/08/08	3.20	2.28	0.71	OK
	20	04/08/08	3.20	2.24	0.70	OK
S-Cs	1	24/07/08	0.65	0.57	0.88	OK
	2	24/07/08	0.65	0.57	0.88	OK
	3	28/07/08	2.70	2.41	0.89	OK
	4	28/07/08	2.70	2.34	0.87	OK
	5	28/07/08	2.50	2.23	0.89	OK
	6	28/07/08	2.50	2.11	0.84	OK
	7	28/07/08	10.00	9.09	0.91	OK
	8	28/07/08	10.00	8.73	0.87	OK
S-Co	9	04/08/08	130.00	122.01	0.94	OK
	10	04/08/08	130.00	118.09	0.91	OK
S-Cs+N60-0°	13	24/07/08	3.90	2.51	0.64	OK
	14	24/07/08	3.90	3.18	0.82	OK
	15	28/07/08	4.30	3.53	0.82	OK
	16	28/07/08	4.30	3.51	0.82	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.71</b>	0.71	0.75	0.67	8%
N60-45°	2	<b>0.61</b>	0.61	0.79	0.42	43%
N150-45°	2	<b>0.71</b>	0.71	0.71	0.70	1%
S-Cs	8	<b>0.88</b>	0.88	0.91	0.84	2%
S-Co	2	<b>0.92</b>	0.92	0.94	0.91	2%
S-Cs+N60-0°	4	<b>0.82</b>	0.77	0.82	0.64	11%
All	20	<b>0.83</b>	<b>0.80</b>	<b>0.94</b>	<b>0.42</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.80</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.83</b>



Results: IC2008

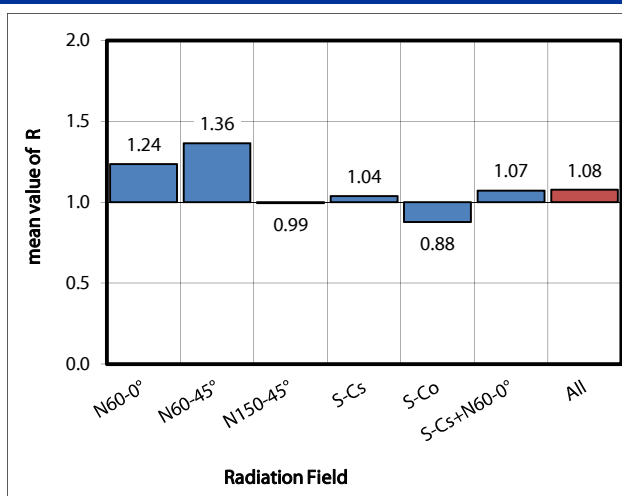
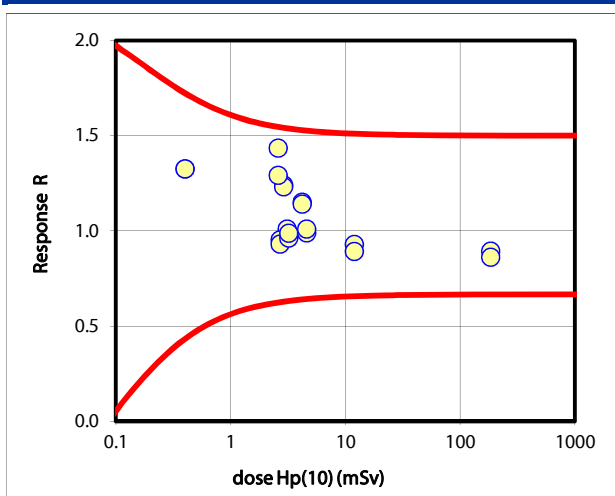
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 38 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.90	3.60	1.24	OK
	12	15/07/08	2.90	3.57	1.23	OK
N60-45°	17	17/07/08	2.60	3.73	1.43	OK
	18	17/07/08	2.60	3.36	1.29	OK
N150-45°	19	18/07/08	3.10	3.03	0.98	OK
	20	18/07/08	3.10	3.13	1.01	OK
S-Cs	1	09/07/08	0.40	0.53	1.33	OK
	2	09/07/08	0.40	0.53	1.33	OK
	3	11/07/08	2.70	2.57	0.95	OK
	4	11/07/08	2.70	2.51	0.93	OK
	5	11/07/08	3.20	3.08	0.96	OK
	6	11/07/08	3.20	3.16	0.99	OK
	7	11/07/08	12.00	11.14	0.93	OK
	8	11/07/08	12.00	10.70	0.89	OK
S-Co	9	21/07/08	185.00	165.20	0.89	OK
	10	21/07/08	185.00	159.18	0.86	OK
S-Cs+N60-0°	13	09/07/08	4.20	4.83	1.15	OK
	14	09/07/08	4.20	4.79	1.14	OK
	15	11/07/08	4.60	4.55	0.99	OK
	16	11/07/08	4.60	4.64	1.01	OK
not irradiated	21	NIR		0.18		
	22	NIR		0.17		
	23	NIR		0.18		
	24	NIR		0.18		
	25	BGR		0.15		
	26	BGR		0.17		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.24</b>	1.24	1.24	1.23	1%
N60-45°	2	<b>1.36</b>	1.36	1.43	1.29	7%
N150-45°	2	<b>0.99</b>	0.99	1.01	0.98	2%
S-Cs	8	<b>0.96</b>	1.04	1.33	0.89	17%
S-Co	2	<b>0.88</b>	0.88	0.89	0.86	3%
S-Cs+N60-0°	4	<b>1.07</b>	1.07	1.15	0.99	8%
All	20	<b>1.00</b>	<b>1.08</b>	<b>1.43</b>	<b>0.86</b>	<b>17%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.08</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.00</b>



Results: IC2008

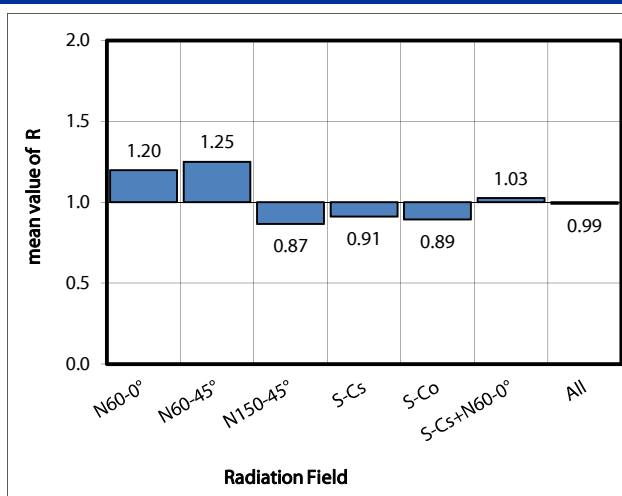
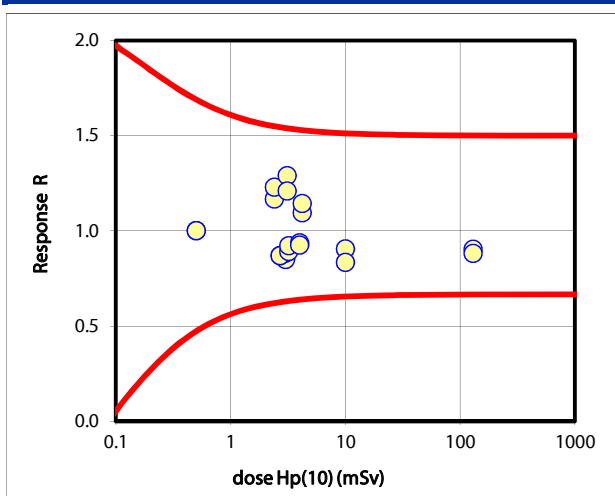
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 39 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.40	2.80	1.17	OK
	12	30/07/08	2.40	2.95	1.23	OK
N60-45°	17	31/07/08	3.10	4.00	1.29	OK
	18	31/07/08	3.10	3.75	1.21	OK
N150-45°	20	04/08/08	3.00	2.55	0.85	OK
	21	04/08/08	3.00	2.65	0.88	OK
S-Cs	1	24/07/08	0.50	0.50	1.00	OK
	2	24/07/08	0.50	0.50	1.00	OK
	3	28/07/08	2.70	2.35	0.87	OK
	4	28/07/08	2.70	2.35	0.87	OK
	5	28/07/08	3.20	2.85	0.89	OK
	6	28/07/08	3.20	2.95	0.92	OK
	7	28/07/08	10.00	9.05	0.91	OK
	8	28/07/08	10.00	8.35	0.84	OK
S-Co	9	04/08/08	130.00	117.40	0.90	OK
	10	04/08/08	130.00	114.65	0.88	OK
S-Cs+N60-0°	13	24/07/08	4.20	4.60	1.10	OK
	14	24/07/08	4.20	4.80	1.14	OK
	15	28/07/08	4.00	3.75	0.94	OK
	16	28/07/08	4.00	3.70	0.93	OK
not irradiated	19	WIR		3.30		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.20	1.20	1.23	1.17	4%
N60-45°	2	1.25	1.25	1.29	1.21	5%
N150-45°	2	0.87	0.87	0.88	0.85	3%
S-Cs	8	0.90	0.91	1.00	0.84	7%
S-Co	2	0.89	0.89	0.90	0.88	2%
S-Cs+N60-0°	4	1.02	1.03	1.14	0.93	11%
All	20	0.92	0.99	1.29	0.84	14%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.99</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.92</b>



Results: IC2008

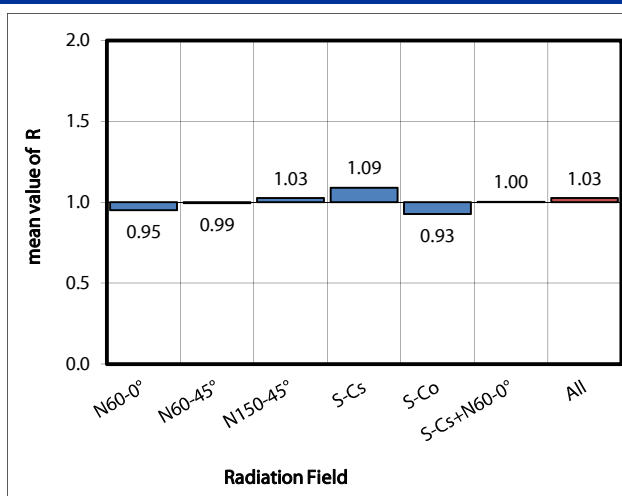
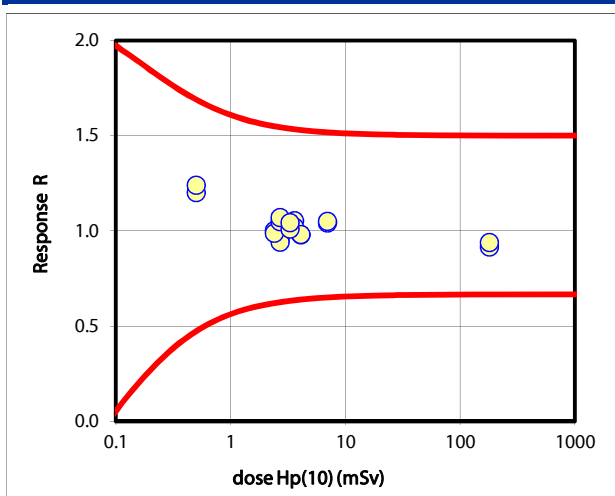
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 40 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.70	2.59	0.96	OK
	12	30/07/08	2.70	2.54	0.94	OK
N60-45°	17	31/07/08	2.40	2.40	1.00	OK
	18	31/07/08	2.40	2.37	0.99	OK
N150-45°	19	01/08/08	3.30	3.37	1.02	OK
	20	01/08/08	3.30	3.40	1.03	OK
S-Cs	1	23/07/08	0.50	0.60	1.20	OK
	2	23/07/08	0.50	0.62	1.24	OK
	3	28/07/08	2.70	2.83	1.05	OK
	4	28/07/08	2.70	2.89	1.07	OK
	5	28/07/08	3.60	3.79	1.05	OK
	6	28/07/08	3.60	3.67	1.02	OK
	7	28/07/08	7.00	7.29	1.04	OK
	8	28/07/08	7.00	7.35	1.05	OK
S-Co	9	04/08/08	180.00	164.69	0.91	OK
	10	04/08/08	180.00	168.79	0.94	OK
S-Cs+N60-0°	13	23/07/08	4.10	4.01	0.98	OK
	14	23/07/08	4.10	4.02	0.98	OK
	15	28/07/08	3.30	3.33	1.01	OK
	16	28/07/08	3.30	3.44	1.04	OK
not irradiated	21	NIR		0.08		
	22	NIR		0.08		
	23	NIR		0.08		
	24	NIR		0.08		
	25	BGR		0.08		
	26	BGR		0.08		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.95</b>	0.95	0.96	0.94	1%
N60-45°	2	<b>0.99</b>	0.99	1.00	0.99	1%
N150-45°	2	<b>1.03</b>	1.03	1.03	1.02	1%
S-Cs	8	<b>1.05</b>	1.09	1.24	1.02	8%
S-Co	2	<b>0.93</b>	0.93	0.94	0.91	2%
S-Cs+N60-0°	4	<b>0.99</b>	1.00	1.04	0.98	3%
All	20	<b>1.02</b>	<b>1.03</b>	<b>1.24</b>	<b>0.91</b>	<b>8%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.03</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.02</b>



Results: IC2008

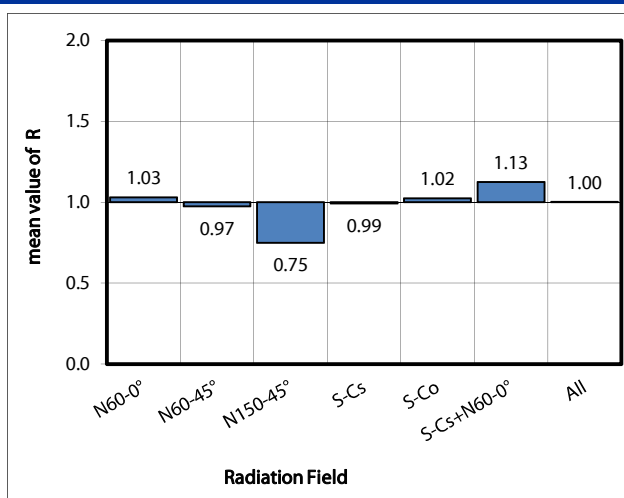
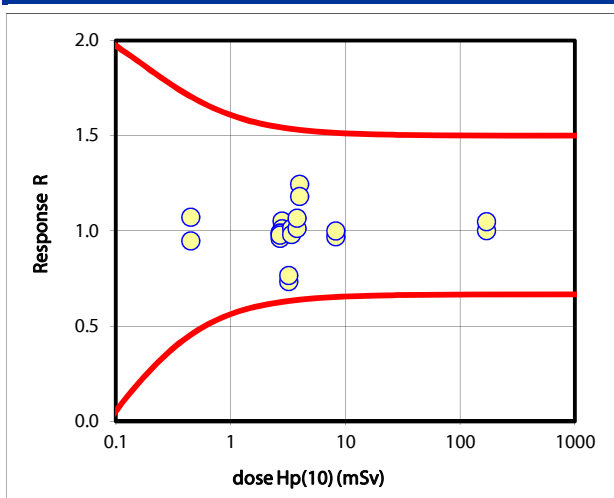
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 41 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.80	2.94	1.05	OK
	12	14/07/08	2.80	2.83	1.01	OK
N60-45°	17	16/07/08	2.70	2.67	0.99	OK
	18	16/07/08	2.70	2.60	0.96	OK
N150-45°	19	18/07/08	3.20	2.35	0.73	OK
	20	18/07/08	3.20	2.45	0.77	OK
S-Cs	1	09/07/08	0.45	0.43	0.95	OK
	2	09/07/08	0.45	0.48	1.07	OK
	3	11/07/08	2.70	2.66	0.98	OK
	4	11/07/08	2.70	2.64	0.98	OK
	5	11/07/08	3.40	3.44	1.01	OK
	6	11/07/08	3.40	3.34	0.98	OK
	7	11/07/08	8.25	7.99	0.97	OK
	8	11/07/08	8.25	8.25	1.00	OK
S-Co	9	21/07/08	170.00	170.10	1.00	OK
	10	21/07/08	170.00	178.00	1.05	OK
S-Cs+N60-0°	13	09/07/08	3.80	3.85	1.01	OK
	14	09/07/08	3.80	4.05	1.07	OK
	15	11/07/08	4.00	4.98	1.24	OK
	16	11/07/08	4.00	4.73	1.18	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.03</b>	1.03	1.05	1.01	3%
N60-45°	2	<b>0.97</b>	0.97	0.99	0.96	2%
N150-45°	2	<b>0.75</b>	0.75	0.77	0.73	3%
S-Cs	8	<b>0.98</b>	0.99	1.07	0.95	4%
S-Co	2	<b>1.02</b>	1.02	1.05	1.00	3%
S-Cs+N60-0°	4	<b>1.12</b>	1.13	1.24	1.01	9%
All	20	<b>1.00</b>	<b>1.00</b>	<b>1.24</b>	<b>0.73</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.00</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.00</b>



Results: IC2008

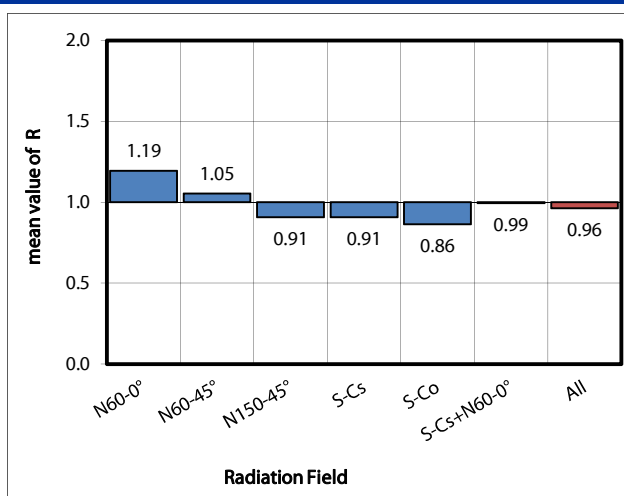
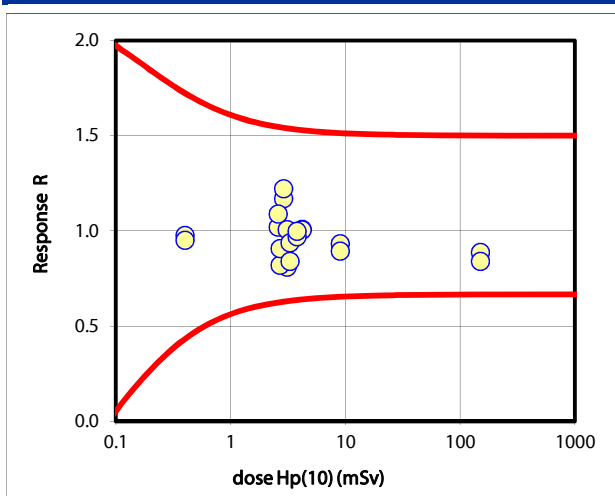
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 42 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.90	3.39	1.17	OK
	12	30/07/08	2.90	3.54	1.22	OK
N60-45°	17	31/07/08	2.60	2.65	1.02	OK
	18	31/07/08	2.60	2.83	1.09	OK
N150-45°	19	01/08/08	3.10	2.51	0.81	OK
	20	01/08/08	3.10	3.12	1.01	OK
S-Cs	1	23/07/08	0.40	0.39	0.98	OK
	2	23/07/08	0.40	0.38	0.95	OK
	3	28/07/08	2.70	2.21	0.82	OK
	4	28/07/08	2.70	2.45	0.91	OK
	5	28/07/08	3.30	2.77	0.84	OK
	6	28/07/08	3.30	3.09	0.94	OK
	7	28/07/08	9.00	8.38	0.93	OK
	8	28/07/08	9.00	8.04	0.89	OK
S-Co	9	04/08/08	150.00	133.00	0.89	OK
	10	04/08/08	150.00	125.90	0.84	OK
S-Cs+N60-0°	13	23/07/08	4.20	4.23	1.01	OK
	14	23/07/08	4.20	4.22	1.00	OK
	15	28/07/08	3.80	3.68	0.97	OK
	16	28/07/08	3.80	3.79	1.00	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.19</b>	1.19	1.22	1.17	3%
N60-45°	2	<b>1.05</b>	1.05	1.09	1.02	5%
N150-45°	2	<b>0.91</b>	0.91	1.01	0.81	15%
S-Cs	8	<b>0.92</b>	0.91	0.98	0.82	6%
S-Co	2	<b>0.86</b>	0.86	0.89	0.84	4%
S-Cs+N60-0°	4	<b>1.00</b>	0.99	1.01	0.97	2%
All	20	<b>0.96</b>	<b>0.96</b>	<b>1.22</b>	<b>0.81</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.96</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.96</b>



Results: IC2008

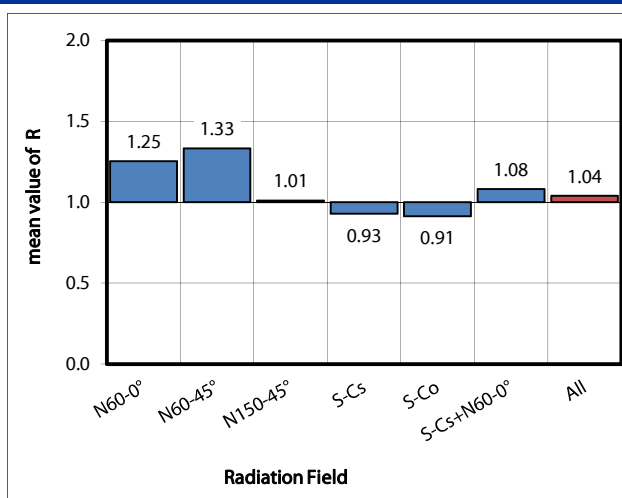
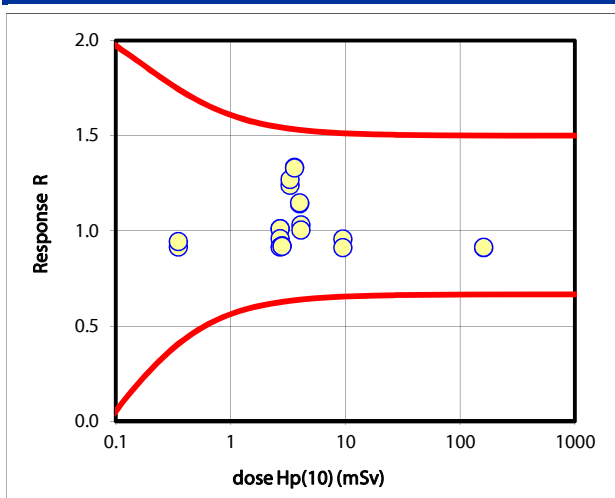
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 43 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	3.30	4.09	1.24	OK
	12	31/07/08	3.30	4.19	1.27	OK
N60-45°	17	01/08/08	3.60	4.80	1.33	OK
	18	01/08/08	3.60	4.79	1.33	OK
N150-45°	19	04/08/08	2.70	2.73	1.01	OK
	20	04/08/08	2.70	2.73	1.01	OK
S-Cs	1	24/07/08	0.35	0.32	0.91	OK
	2	24/07/08	0.35	0.33	0.94	OK
	3	29/07/08	2.70	2.59	0.96	OK
	4	29/07/08	2.70	2.47	0.91	OK
	5	29/07/08	2.80	2.58	0.92	OK
	6	29/07/08	2.80	2.57	0.92	OK
	7	29/07/08	9.50	9.09	0.96	OK
	8	29/07/08	9.50	8.66	0.91	OK
S-Co	9	04/08/08	160.00	145.98	0.91	OK
	10	04/08/08	160.00	146.08	0.91	OK
S-Cs+N60-0°	13	24/07/08	4.00	4.57	1.14	OK
	14	24/07/08	4.00	4.59	1.15	OK
	15	29/07/08	4.10	4.23	1.03	OK
	16	29/07/08	4.10	4.12	1.00	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.14		
	26	BGR		0.14		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.25	1.25	1.27	1.24	2%
N60-45°	2	1.33	1.33	1.33	1.33	0%
N150-45°	2	1.01	1.01	1.01	1.01	0%
S-Cs	8	0.92	0.93	0.96	0.91	2%
S-Co	2	0.91	0.91	0.91	0.91	0%
S-Cs+N60-0°	4	1.09	1.08	1.15	1.00	7%
All	20	0.98	1.04	1.33	0.91	15%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.98</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

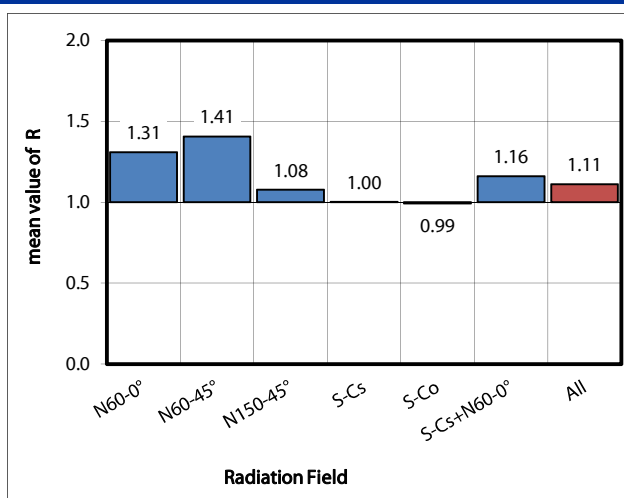
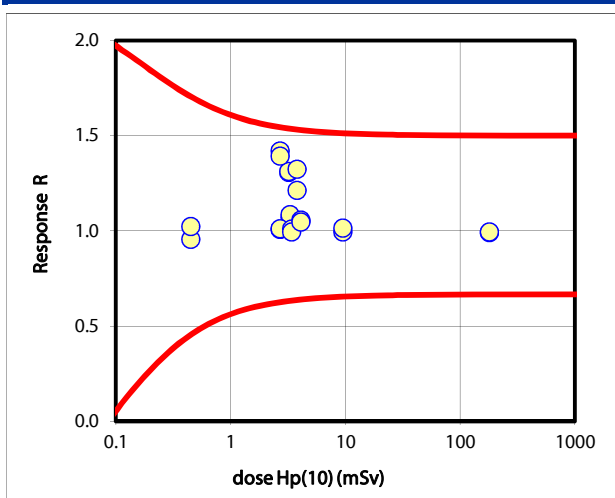


## Laboratory Nr. 44 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.20	4.18	1.31	OK
	12	14/07/08	3.20	4.20	1.31	OK
N60-45°	17	17/07/08	2.70	3.83	1.42	OK
	18	17/07/08	2.70	3.76	1.39	OK
N150-45°	19	18/07/08	3.30	3.53	1.07	OK
	20	18/07/08	3.30	3.58	1.08	OK
S-Cs	1	09/07/08	0.45	0.43	0.96	OK
	2	09/07/08	0.45	0.46	1.02	OK
	3	10/07/08	2.70	2.72	1.01	OK
	4	10/07/08	2.70	2.73	1.01	OK
	5	10/07/08	3.40	3.43	1.01	OK
	6	10/07/08	3.40	3.38	0.99	OK
	7	10/07/08	9.50	9.45	0.99	OK
	8	10/07/08	9.50	9.64	1.01	OK
S-Co	9	21/07/08	180.00	178.30	0.99	OK
	10	21/07/08	180.00	178.90	0.99	OK
S-Cs+N60-0°	13	09/07/08	3.80	5.03	1.32	OK
	14	09/07/08	3.80	4.61	1.21	OK
	15	10/07/08	4.10	4.33	1.06	OK
	16	10/07/08	4.10	4.29	1.05	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.31	1.31	1.31	1.31	0%
N60-45°	2	1.41	1.41	1.42	1.39	1%
N150-45°	2	1.08	1.08	1.08	1.07	1%
S-Cs	8	1.01	1.00	1.02	0.96	2%
S-Co	2	0.99	0.99	0.99	0.99	0%
S-Cs+N60-0°	4	1.13	1.16	1.32	1.05	11%
All	20	1.03	1.11	1.42	0.96	15%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.11</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.03</b>



Results: IC2008

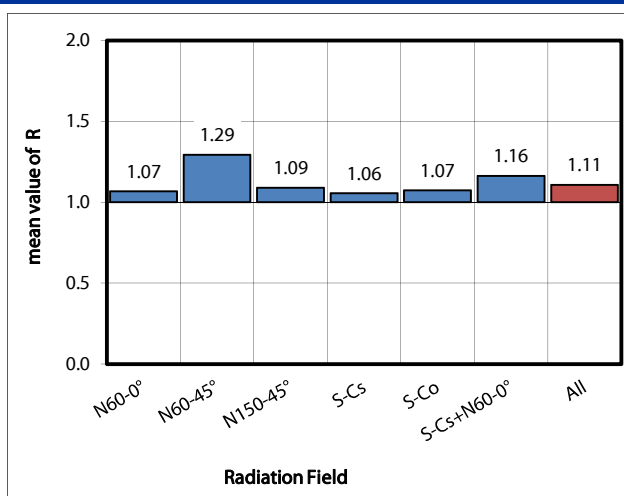
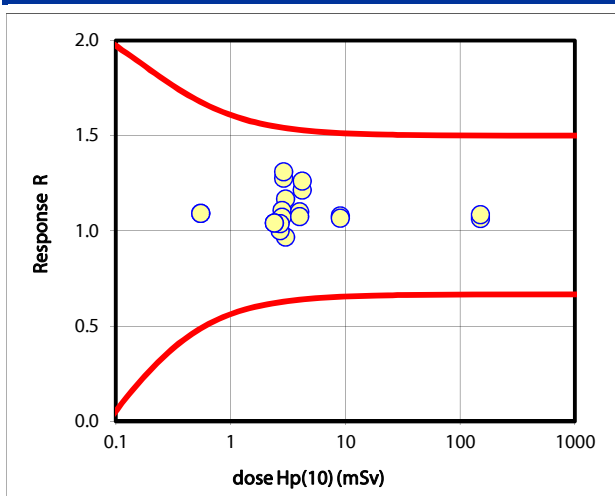
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 45 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.00	2.90	0.97	OK
	12	30/07/08	3.00	3.50	1.17	OK
N60-45°	17	31/07/08	2.90	3.70	1.28	OK
	18	31/07/08	2.90	3.80	1.31	OK
N150-45°	19	01/08/08	2.80	3.10	1.11	OK
	20	01/08/08	2.80	3.00	1.07	OK
S-Cs	1	23/07/08	0.55	0.60	1.09	OK
	2	23/07/08	0.55	0.60	1.09	OK
	3	25/07/08	2.70	2.70	1.00	OK
	4	25/07/08	2.70	2.80	1.04	OK
	5	25/07/08	2.40	2.50	1.04	OK
	6	25/07/08	2.40	2.50	1.04	OK
	7	25/07/08	9.00	9.70	1.08	OK
	8	25/07/08	9.00	9.60	1.07	OK
S-Co	9	04/08/08	150.00	159.70	1.06	OK
	10	04/08/08	150.00	162.60	1.08	OK
S-Cs+N60-0°	13	23/07/08	4.20	5.10	1.21	OK
	14	23/07/08	4.20	5.30	1.26	OK
	15	25/07/08	4.00	4.40	1.10	OK
	16	25/07/08	4.00	4.30	1.08	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.07	1.07	1.17	0.97	13%
N60-45°	2	1.29	1.29	1.31	1.28	2%
N150-45°	2	1.09	1.09	1.11	1.07	2%
S-Cs	8	1.05	1.06	1.09	1.00	3%
S-Co	2	1.07	1.07	1.08	1.06	1%
S-Cs+N60-0°	4	1.16	1.16	1.26	1.08	8%
All	20	1.08	1.11	1.31	0.97	9%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.11</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.08</b>



Results: IC2008

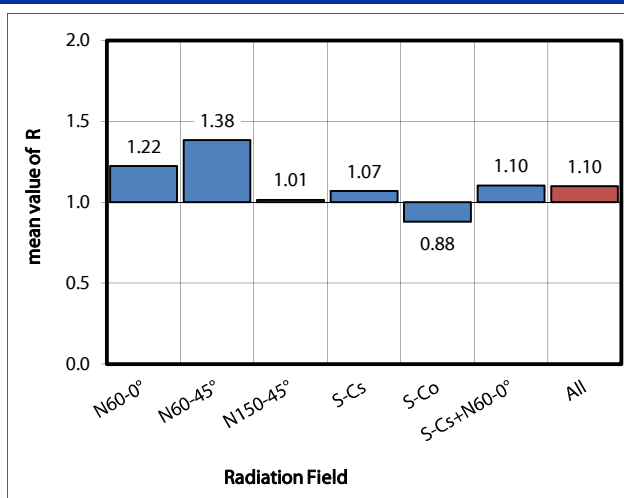
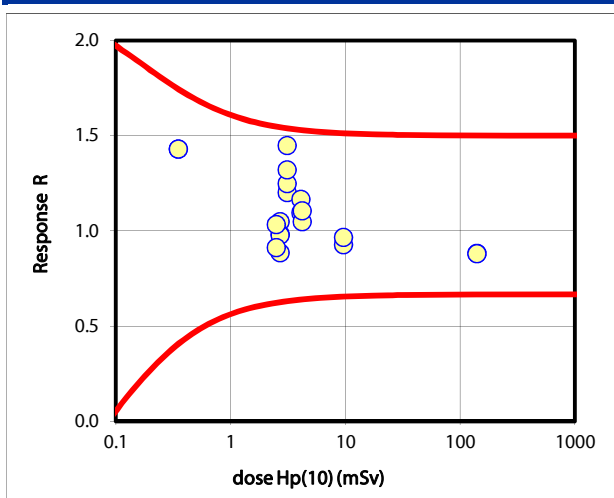
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 46 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.10	3.72	1.20	OK
	12	14/07/08	3.10	3.87	1.25	OK
N60-45°	17	17/07/08	3.10	4.09	1.32	OK
	18	17/07/08	3.10	4.49	1.45	OK
N150-45°	19	18/07/08	2.70	2.83	1.05	OK
	20	18/07/08	2.70	2.65	0.98	OK
S-Cs	1	09/07/08	0.35	0.50	1.43	OK
	2	09/07/08	0.35	0.50	1.43	OK
	3	11/07/08	2.70	2.64	0.98	OK
	4	11/07/08	2.70	2.39	0.89	OK
	5	11/07/08	2.50	2.28	0.91	OK
	6	11/07/08	2.50	2.58	1.03	OK
	7	11/07/08	9.60	8.89	0.93	OK
	8	11/07/08	9.60	9.26	0.96	OK
S-Co	9	21/07/08	140.00	123.38	0.88	OK
	10	21/07/08	140.00	123.17	0.88	OK
S-Cs+N60-0°	13	09/07/08	4.10	4.49	1.10	OK
	14	09/07/08	4.10	4.78	1.17	OK
	15	11/07/08	4.20	4.40	1.05	OK
	16	11/07/08	4.20	4.64	1.10	OK
not irradiated	21	NIR		0.16		
	22	NIR		0.18		
	23	NIR		0.17		
	24	NIR		0.14		
	25	BGR		0.16		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.22</b>	1.22	1.25	1.20	3%
N60-45°	2	<b>1.38</b>	1.38	1.45	1.32	7%
N150-45°	2	<b>1.01</b>	1.01	1.05	0.98	5%
S-Cs	8	<b>0.97</b>	1.07	1.43	0.89	21%
S-Co	2	<b>0.88</b>	0.88	0.88	0.88	0%
S-Cs+N60-0°	4	<b>1.10</b>	1.10	1.17	1.05	4%
All	20	<b>1.05</b>	<b>1.10</b>	<b>1.45</b>	<b>0.88</b>	<b>19%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.10</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.05</b>



Results: IC2008

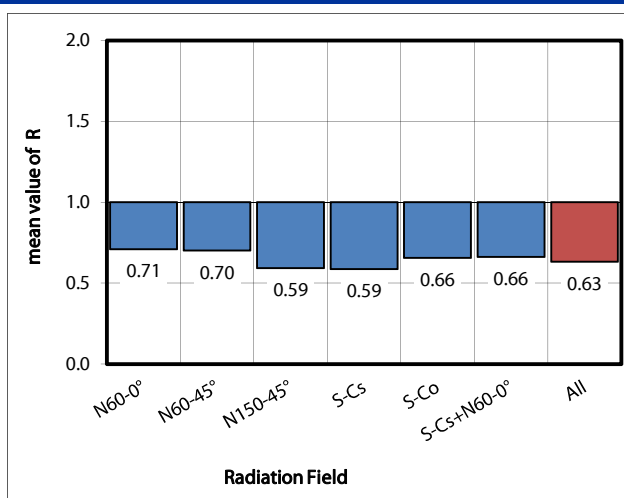
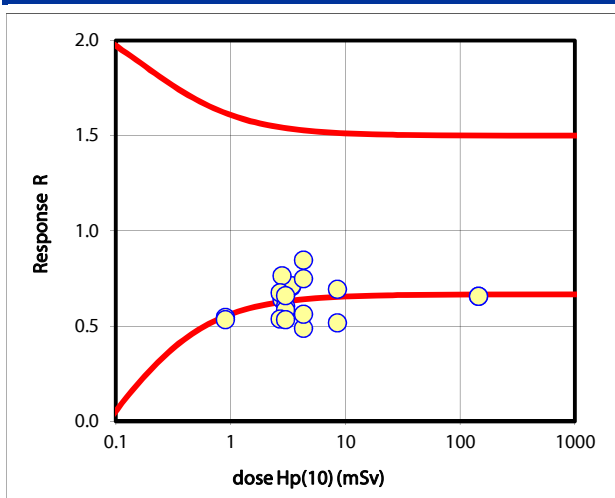
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 47 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.40	2.40	0.71	OK
	12	30/07/08	3.40	2.42	0.71	OK
N60-45°	17	31/07/08	2.80	1.79	0.64	OK
	18	31/07/08	2.80	2.14	0.76	OK
N150-45°	19	01/08/08	3.00	1.81	0.60	outlier
	20	01/08/08	3.00	1.75	0.58	outlier
S-Cs	1	23/07/08	0.90	0.49	0.54	outlier
	2	23/07/08	0.90	0.48	0.53	outlier
	3	26/07/08	2.70	1.82	0.67	OK
	4	26/07/08	2.70	1.45	0.54	outlier
	5	26/07/08	3.00	1.60	0.53	outlier
	6	26/07/08	3.00	1.98	0.66	OK
	7	26/07/08	8.50	5.89	0.69	OK
	8	26/07/08	8.50	4.39	0.52	outlier
S-Co	9	04/08/08	145.00	95.09	0.66	outlier
	10	04/08/08	145.00	95.09	0.66	outlier
S-Cs+N60-0°	13	23/07/08	4.30	3.64	0.85	OK
	14	23/07/08	4.30	3.22	0.75	OK
	15	26/07/08	4.30	2.10	0.49	outlier
	16	26/07/08	4.30	2.42	0.56	outlier
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.08		
	25	BGR		0.08		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.71	0.71	0.71	0.71	1%
N60-45°	2	0.70	0.70	0.76	0.64	13%
N150-45°	2	0.59	0.59	0.60	0.58	2%
S-Cs	8	0.54	0.59	0.69	0.52	13%
S-Co	2	0.66	0.66	0.66	0.66	0%
S-Cs+N60-0°	4	0.66	0.66	0.85	0.49	25%
All	20	0.65	0.63	0.85	0.49	10%

<b>Number of outliers:</b>	<b>11</b>	<b>Arithmetic mean value of all R:</b>	<b>0.63</b>
<b>Fraction of outliers:</b>	<b>55%</b>	<b>Median value of all R:</b>	<b>0.65</b>



Results: IC2008

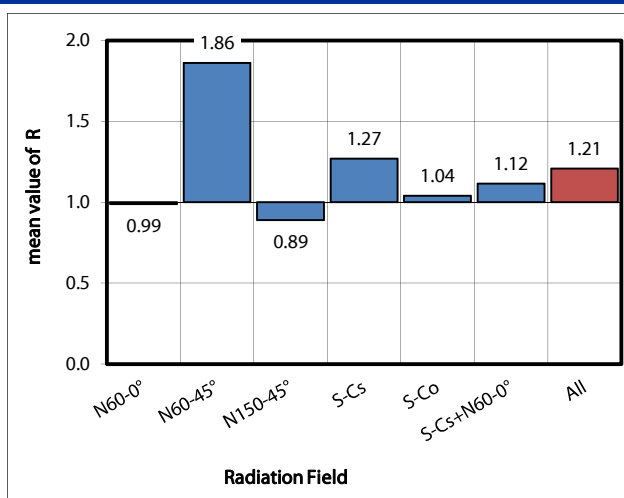
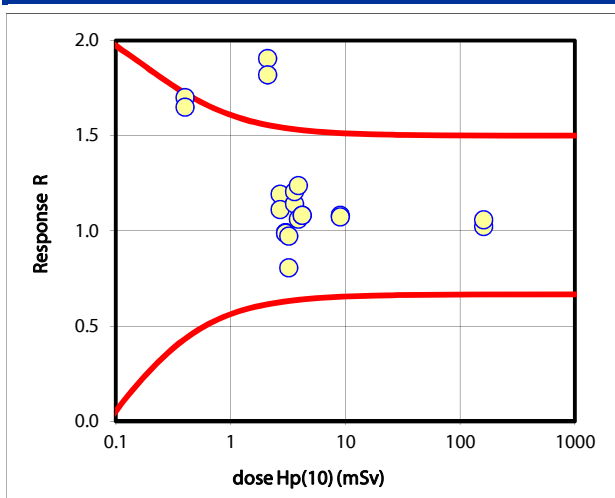
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 48 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.00	2.97	0.99	OK
	12	14/07/08	3.00	2.96	0.99	OK
N60-45°	17	17/07/08	2.10	4.00	1.90	outlier
	18	17/07/08	2.10	3.82	1.82	outlier
N150-45°	19	18/07/08	3.20	3.11	0.97	OK
	20	18/07/08	3.20	2.58	0.81	OK
S-Cs	1	09/07/08	0.40	0.68	1.70	OK
	2	09/07/08	0.40	0.66	1.65	OK
	3	10/07/08	2.70	3.22	1.19	OK
	4	10/07/08	2.70	3.00	1.11	OK
	5	10/07/08	3.60	4.11	1.14	OK
	6	10/07/08	3.60	4.34	1.21	OK
	7	10/07/08	9.00	9.74	1.08	OK
	8	10/07/08	9.00	9.66	1.07	OK
S-Co	9	21/07/08	160.00	163.58	1.02	OK
	10	21/07/08	160.00	169.16	1.06	OK
S-Cs+N60-0°	13	09/07/08	3.90	4.14	1.06	OK
	14	09/07/08	3.90	4.83	1.24	OK
	15	10/07/08	4.20	4.54	1.08	OK
	16	10/07/08	4.20	4.54	1.08	OK
not irradiated	21	NIR		0.22		
	22	NIR		0.19		
	23	NIR		0.19		
	24	NIR		0.18		
	25	BGR		0.18		
	26	BGR		0.18		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.99</b>	0.99	0.99	0.99	0%
N60-45°	2	<b>1.86</b>	1.86	1.90	1.82	3%
N150-45°	2	<b>0.89</b>	0.89	0.97	0.81	13%
S-Cs	8	<b>1.17</b>	1.27	1.70	1.07	20%
S-Co	2	<b>1.04</b>	1.04	1.06	1.02	2%
S-Cs+N60-0°	4	<b>1.08</b>	1.12	1.24	1.06	7%
All	20	<b>1.08</b>	1.21	1.90	0.81	31%

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>1.21</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>1.08</b>



Results: IC2008

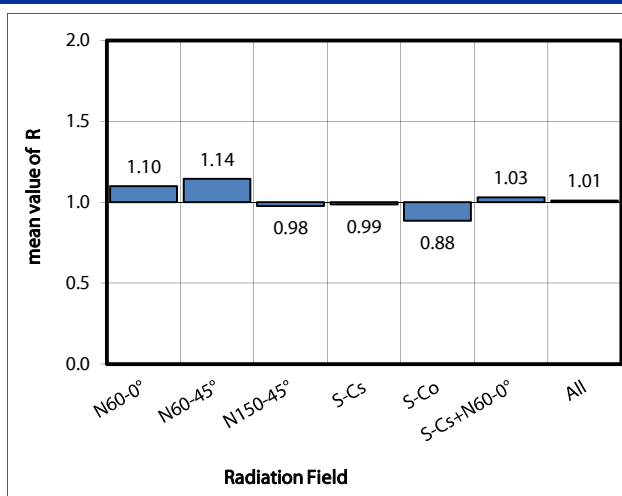
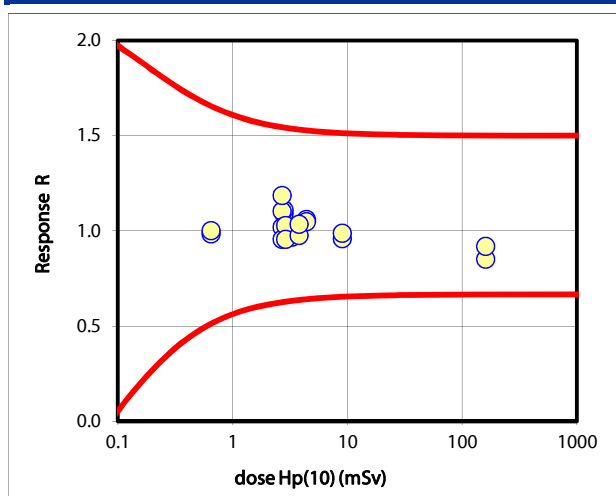
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 49 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.80	3.05	1.09	OK
	12	15/07/08	2.80	3.11	1.11	OK
N60-45°	17	17/07/08	2.70	2.98	1.10	OK
	18	17/07/08	2.70	3.20	1.19	OK
N150-45°	19	18/07/08	3.30	3.25	0.98	OK
	20	18/07/08	3.30	3.19	0.97	OK
S-Cs	1	09/07/08	0.65	0.64	0.98	OK
	2	09/07/08	0.65	0.65	1.00	OK
	3	11/07/08	2.70	2.75	1.02	OK
	4	11/07/08	2.70	2.58	0.96	OK
	5	11/07/08	2.90	2.98	1.03	OK
	6	11/07/08	2.90	2.77	0.96	OK
	7	11/07/08	9.00	8.63	0.96	OK
	8	11/07/08	9.00	8.88	0.99	OK
S-Co	9	21/07/08	160.00	136.24	0.85	OK
	10	21/07/08	160.00	146.83	0.92	OK
S-Cs+N60-0°	13	09/07/08	4.40	4.66	1.06	OK
	14	09/07/08	4.40	4.61	1.05	OK
	15	11/07/08	3.80	3.71	0.98	OK
	16	11/07/08	3.80	3.93	1.03	OK
not irradiated	21	NIR		0.04		
	22	NIR		0.03		
	23	NIR		0.03		
	24	NIR		0.04		
	25	BGR		0.02		
	26	BGR		0.04		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.10</b>	1.10	1.11	1.09	1%
N60-45°	2	<b>1.14</b>	1.14	1.19	1.10	5%
N150-45°	2	<b>0.98</b>	0.98	0.98	0.97	1%
S-Cs	8	<b>0.99</b>	0.99	1.03	0.96	3%
S-Co	2	<b>0.88</b>	0.88	0.92	0.85	5%
S-Cs+N60-0°	4	<b>1.04</b>	1.03	1.06	0.98	4%
All	20	<b>0.99</b>	1.01	1.19	0.85	8%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.99</b>



Results: IC2008

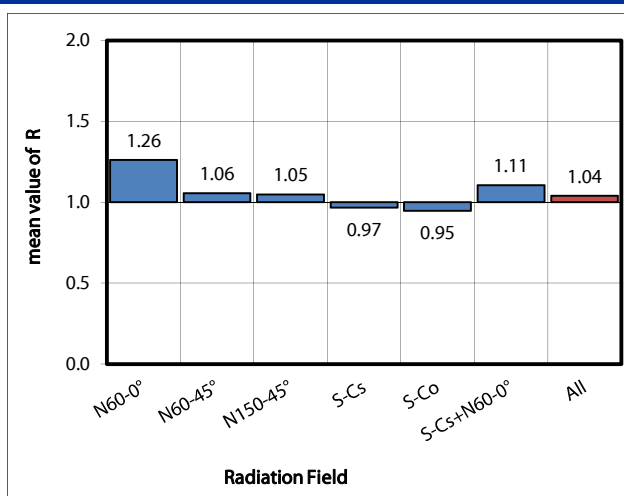
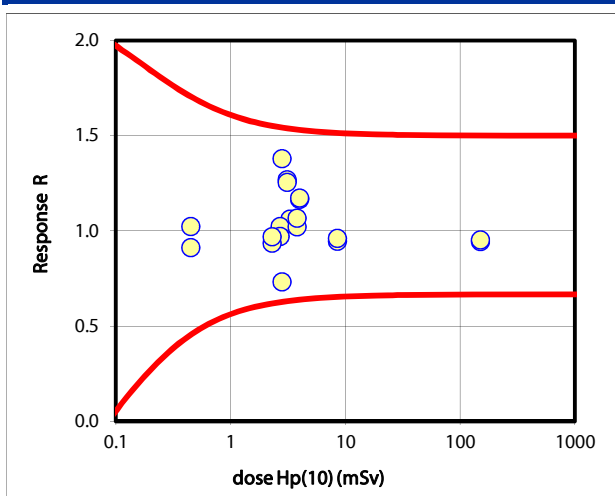
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 50 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.10	3.93	1.27	OK
	12	30/07/08	3.10	3.89	1.25	OK
N60-45°	17	31/07/08	2.80	2.05	0.73	OK
	18	31/07/08	2.80	3.86	1.38	OK
N150-45°	19	04/08/08	3.30	3.42	1.04	OK
	20	04/08/08	3.30	3.50	1.06	OK
S-Cs	1	24/07/08	0.45	0.46	1.02	OK
	2	24/07/08	0.45	0.41	0.91	OK
	3	28/07/08	2.70	2.76	1.02	OK
	4	28/07/08	2.70	2.62	0.97	OK
	5	28/07/08	2.30	2.15	0.93	OK
	6	28/07/08	2.30	2.23	0.97	OK
	7	28/07/08	8.50	8.04	0.95	OK
	8	28/07/08	8.50	8.17	0.96	OK
S-Co	9	04/08/08	150.00	141.44	0.94	OK
	10	04/08/08	150.00	142.91	0.95	OK
S-Cs+N60-0°	13	24/07/08	4.00	4.66	1.17	OK
	14	24/07/08	4.00	4.69	1.17	OK
	15	28/07/08	3.80	3.88	1.02	OK
	16	28/07/08	3.80	4.05	1.07	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.01		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.26</b>	1.26	1.27	1.25	1%
N60-45°	2	<b>1.06</b>	1.06	1.38	0.73	43%
N150-45°	2	<b>1.05</b>	1.05	1.06	1.04	2%
S-Cs	8	<b>0.97</b>	0.97	1.02	0.91	4%
S-Co	2	<b>0.95</b>	0.95	0.95	0.94	1%
S-Cs+N60-0°	4	<b>1.12</b>	1.11	1.17	1.02	7%
All	20	<b>1.02</b>	<b>1.04</b>	<b>1.38</b>	<b>0.73</b>	<b>15%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.02</b>



Results: IC2008

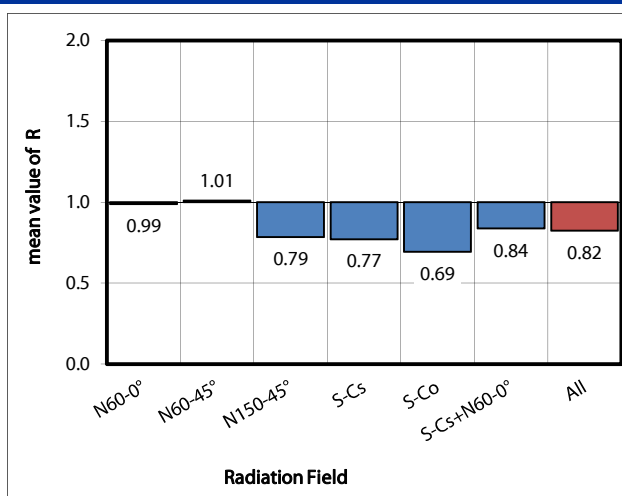
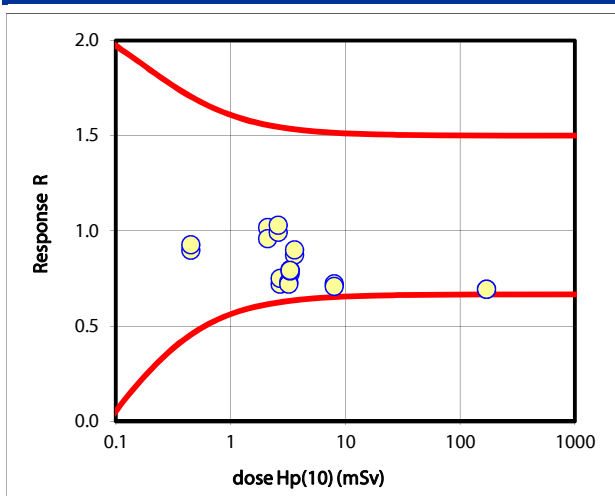
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 51 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.10	2.14	1.02	OK
	12	30/07/08	2.10	2.01	0.96	OK
N60-45°	17	31/07/08	2.60	2.58	0.99	OK
	18	31/07/08	2.60	2.68	1.03	OK
N150-45°	19	04/08/08	3.30	2.63	0.80	OK
	20	04/08/08	3.30	2.56	0.77	OK
S-Cs	1	24/07/08	0.45	0.40	0.90	OK
	2	24/07/08	0.45	0.42	0.93	OK
	3	29/07/08	2.70	1.94	0.72	OK
	4	29/07/08	2.70	2.02	0.75	OK
	5	29/07/08	3.20	2.33	0.73	OK
	6	29/07/08	3.20	2.30	0.72	OK
	7	29/07/08	8.00	5.78	0.72	OK
	8	29/07/08	8.00	5.66	0.71	OK
S-Co	9	04/08/08	170.00	117.72	0.69	OK
	10	04/08/08	170.00	117.80	0.69	OK
S-Cs+N60-0°	13	24/07/08	3.60	3.14	0.87	OK
	14	24/07/08	3.60	3.24	0.90	OK
	15	29/07/08	3.30	2.61	0.79	OK
	16	29/07/08	3.30	2.62	0.79	OK
not irradiated	21	NIR		0.09		
	22	NIR		0.10		
	23	NIR		0.09		
	24	NIR		0.10		
	25	BGR		0.08		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.99</b>	0.99	1.02	0.96	4%
N60-45°	2	<b>1.01</b>	1.01	1.03	0.99	3%
N150-45°	2	<b>0.79</b>	0.79	0.80	0.77	2%
S-Cs	8	<b>0.73</b>	0.77	0.93	0.71	11%
S-Co	2	<b>0.69</b>	0.69	0.69	0.69	0%
S-Cs+N60-0°	4	<b>0.83</b>	0.84	0.90	0.79	7%
All	20	<b>0.79</b>	<b>0.82</b>	<b>1.03</b>	<b>0.69</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.82</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.79</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

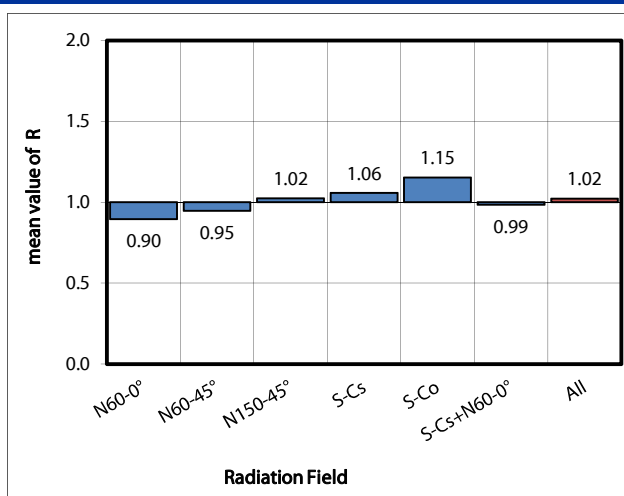
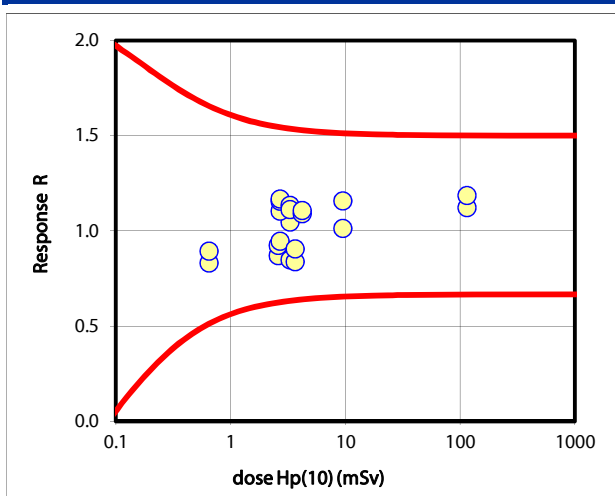


## Laboratory Nr. 52 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.60	2.26	0.87	OK
	12	14/07/08	2.60	2.40	0.92	OK
N60-45°	17	17/07/08	3.30	2.80	0.85	OK
	18	17/07/08	3.30	3.45	1.05	OK
N150-45°	19	18/07/08	2.70	2.98	1.10	OK
	20	18/07/08	2.70	2.55	0.94	OK
S-Cs	1	09/07/08	0.65	0.54	0.83	OK
	2	09/07/08	0.65	0.58	0.89	OK
	3	10/07/08	2.70	3.12	1.16	OK
	4	10/07/08	2.70	3.15	1.17	OK
	5	10/07/08	3.30	3.74	1.13	OK
	6	10/07/08	3.30	3.67	1.11	OK
	7	10/07/08	9.50	10.99	1.16	OK
	8	10/07/08	9.50	9.62	1.01	OK
S-Co	9	21/07/08	115.00	128.93	1.12	OK
	10	21/07/08	115.00	136.25	1.18	OK
S-Cs+N60-0°	13	09/07/08	3.65	3.06	0.84	OK
	14	09/07/08	3.65	3.30	0.90	OK
	15	10/07/08	4.20	4.58	1.09	OK
	16	10/07/08	4.20	4.65	1.11	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.90</b>	0.90	0.92	0.87	4%
N60-45°	2	<b>0.95</b>	0.95	1.05	0.85	15%
N150-45°	2	<b>1.02</b>	1.02	1.10	0.94	11%
S-Cs	8	<b>1.12</b>	1.06	1.17	0.83	12%
S-Co	2	<b>1.15</b>	1.15	1.18	1.12	4%
S-Cs+N60-0°	4	<b>1.00</b>	0.99	1.11	0.84	14%
All	20	<b>1.07</b>	<b>1.02</b>	<b>1.18</b>	<b>0.83</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.02</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.07</b>



Results: IC2008

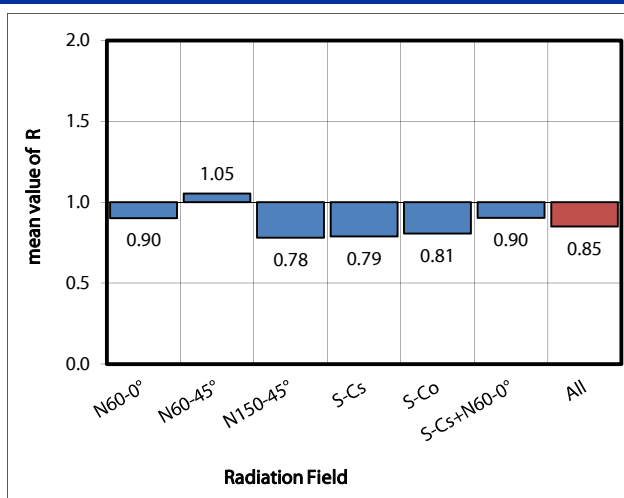
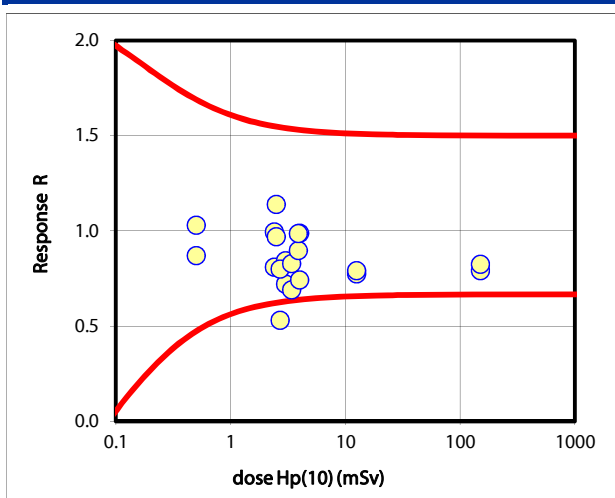
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 53 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.40	2.39	0.99	OK
	12	31/07/08	2.40	1.94	0.81	OK
N60-45°	17	01/08/08	2.50	2.42	0.97	OK
	18	01/08/08	2.50	2.85	1.14	OK
N150-45°	19	04/08/08	3.00	2.16	0.72	OK
	20	04/08/08	3.00	2.53	0.84	OK
S-Cs	1	24/07/08	0.50	0.51	1.03	OK
	2	24/07/08	0.50	0.44	0.87	OK
	3	29/07/08	2.70	1.43	0.53	outlier
	4	29/07/08	2.70	2.16	0.80	OK
	5	29/07/08	3.40	2.81	0.83	OK
	6	29/07/08	3.40	2.35	0.69	OK
	7	29/07/08	12.50	9.67	0.77	OK
	8	29/07/08	12.50	9.88	0.79	OK
S-Co	9	04/08/08	150.00	118.49	0.79	OK
	10	04/08/08	150.00	123.59	0.82	OK
S-Cs+N60-0°	13	24/07/08	4.00	3.95	0.99	OK
	14	24/07/08	4.00	2.97	0.74	OK
	15	29/07/08	3.90	3.50	0.90	OK
	16	29/07/08	3.90	3.84	0.99	OK
not irradiated	21	NIR		0.03		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.04		
	25	BGR		0.17		
	26	BGR		0.26		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.90</b>	0.90	0.99	0.81	15%
N60-45°	2	<b>1.05</b>	1.05	1.14	0.97	11%
N150-45°	2	<b>0.78</b>	0.78	0.84	0.72	11%
S-Cs	8	<b>0.79</b>	0.79	1.03	0.53	18%
S-Co	2	<b>0.81</b>	0.81	0.82	0.79	3%
S-Cs+N60-0°	4	<b>0.94</b>	0.90	0.99	0.74	13%
All	20	<b>0.83</b>	<b>0.85</b>	<b>1.14</b>	<b>0.53</b>	<b>14%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.85</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.83</b>



Results: IC2008

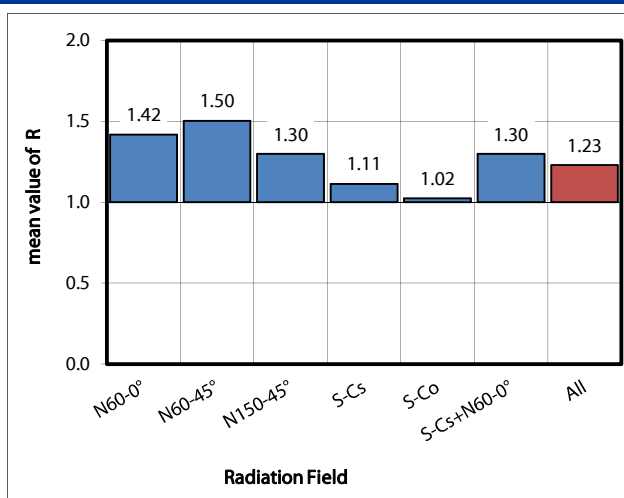
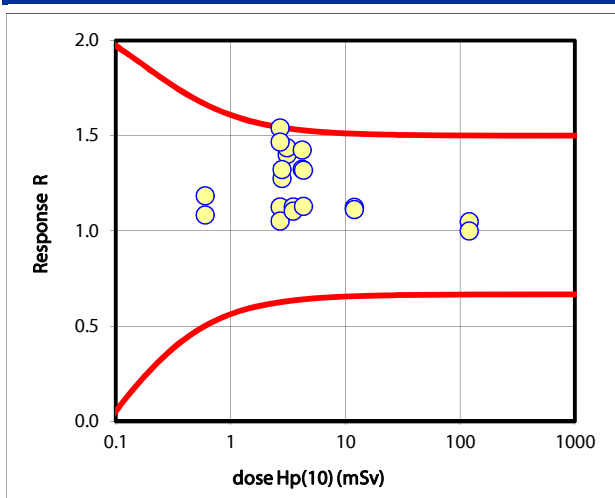
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 54 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.10	4.34	1.40	OK
	12	14/07/08	3.10	4.45	1.44	OK
N60-45°	17	17/07/08	2.70	4.16	1.54	OK
	18	17/07/08	2.70	3.96	1.47	OK
N150-45°	19	18/07/08	2.80	3.57	1.28	OK
	20	18/07/08	2.80	3.70	1.32	OK
S-Cs	1	09/07/08	0.60	0.65	1.08	OK
	2	09/07/08	0.60	0.71	1.18	OK
	3	11/07/08	2.70	3.04	1.13	OK
	4	11/07/08	2.70	2.84	1.05	OK
	5	11/07/08	3.50	3.94	1.13	OK
	6	11/07/08	3.50	3.86	1.10	OK
	7	11/07/08	12.00	13.49	1.12	OK
	8	11/07/08	12.00	13.33	1.11	OK
S-Co	9	21/07/08	120.00	125.72	1.05	OK
	10	21/07/08	120.00	119.85	1.00	OK
S-Cs+N60-0°	13	09/07/08	4.20	5.98	1.42	OK
	14	09/07/08	4.20	5.56	1.32	OK
	15	11/07/08	4.30	4.85	1.13	OK
	16	11/07/08	4.30	5.67	1.32	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.01		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.42	1.42	1.44	1.40	2%
N60-45°	2	1.50	1.50	1.54	1.47	3%
N150-45°	2	1.30	1.30	1.32	1.28	3%
S-Cs	8	1.12	1.11	1.18	1.05	3%
S-Co	2	1.02	1.02	1.05	1.00	3%
S-Cs+N60-0°	4	1.32	1.30	1.42	1.13	10%
All	20	1.16	1.23	1.54	1.00	16%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.23</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.16</b>



Results: IC2008

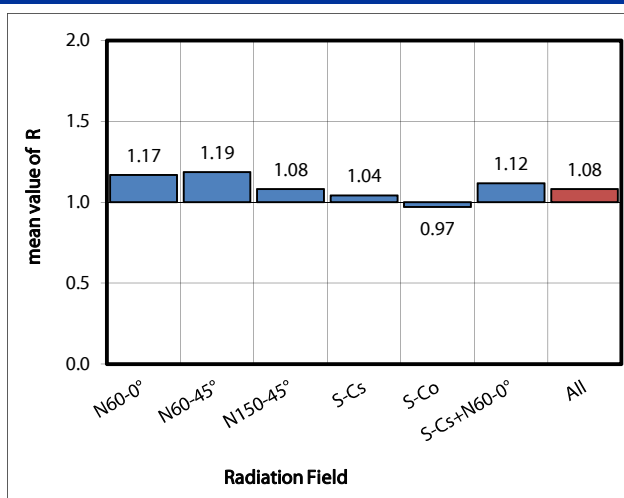
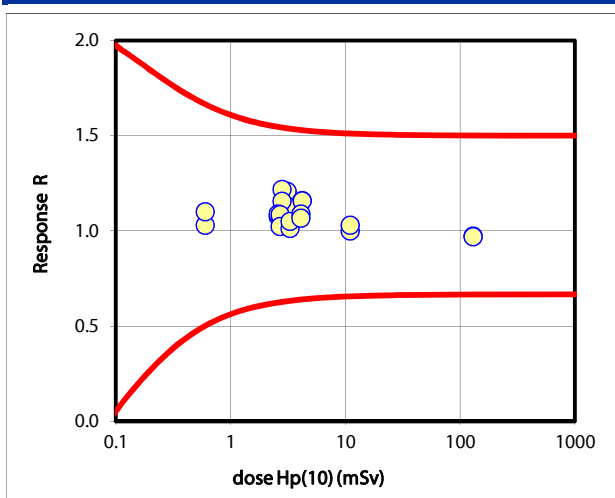
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 55 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	3.10	3.75	1.21	OK
	12	15/07/08	3.10	3.50	1.13	OK
N60-45°	17	17/07/08	2.80	3.41	1.22	OK
	18	17/07/08	2.80	3.24	1.16	OK
N150-45°	19	18/07/08	2.60	2.79	1.07	OK
	20	18/07/08	2.60	2.83	1.09	OK
S-Cs	1	09/07/08	0.60	0.62	1.03	OK
	2	09/07/08	0.60	0.66	1.10	OK
	3	11/07/08	2.70	2.93	1.09	OK
	4	11/07/08	2.70	2.76	1.02	OK
	5	11/07/08	3.30	3.34	1.01	OK
	6	11/07/08	3.30	3.46	1.05	OK
	7	11/07/08	11.00	11.00	1.00	OK
	8	11/07/08	11.00	11.31	1.03	OK
S-Co	9	21/07/08	130.00	126.39	0.97	OK
	10	21/07/08	130.00	125.94	0.97	OK
S-Cs+N60-0°	13	09/07/08	4.20	4.87	1.16	OK
	14	09/07/08	4.20	4.86	1.16	OK
	15	11/07/08	4.10	4.46	1.09	OK
	16	11/07/08	4.10	4.38	1.07	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.16		
	26	BGR		0.16		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.17	1.17	1.21	1.13	5%
N60-45°	2	1.19	1.19	1.22	1.16	4%
N150-45°	2	1.08	1.08	1.09	1.07	1%
S-Cs	8	1.03	1.04	1.10	1.00	3%
S-Co	2	0.97	0.97	0.97	0.97	0%
S-Cs+N60-0°	4	1.12	1.12	1.16	1.07	4%
All	20	1.08	1.08	1.22	0.97	7%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.08</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.08</b>



Results: IC2008

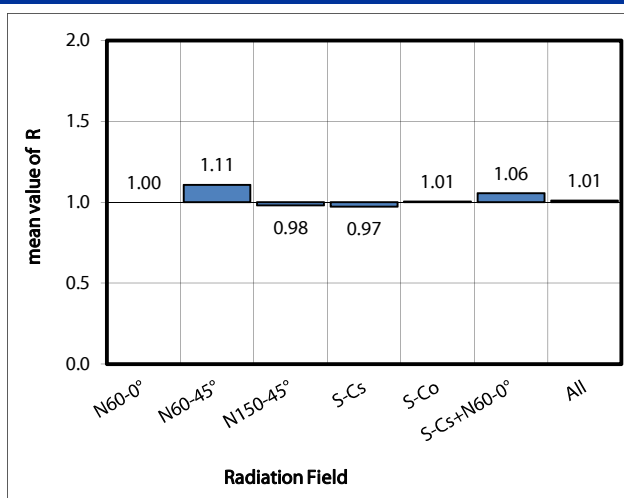
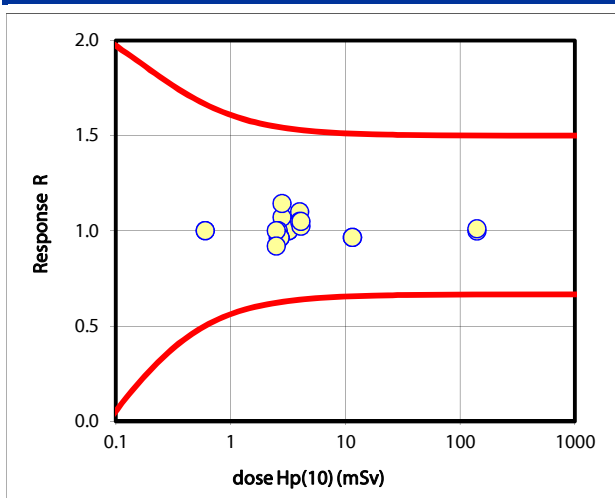
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 56 (TLD) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.20	3.20	1.00	OK
	12	30/07/08	3.20	3.20	1.00	OK
N60-45°	17	31/07/08	2.80	3.00	1.07	OK
	18	31/07/08	2.80	3.20	1.14	OK
N150-45°	19	01/08/08	2.60	2.50	0.96	OK
	20	01/08/08	2.60	2.60	1.00	OK
S-Cs	1	23/07/08	0.60	0.60	1.00	OK
	2	23/07/08	0.60	0.60	1.00	OK
	3	26/07/08	2.70	2.60	0.96	OK
	4	26/07/08	2.70	2.60	0.96	OK
	5	26/07/08	2.50	2.50	1.00	OK
	6	26/07/08	2.50	2.30	0.92	OK
	7	26/07/08	11.50	11.10	0.97	OK
	8	26/07/08	11.50	11.10	0.97	OK
S-Co	9	04/08/08	140.00	139.90	1.00	OK
	10	04/08/08	140.00	141.50	1.01	OK
S-Cs+N60-0°	13	23/07/08	4.00	4.40	1.10	OK
	14	23/07/08	4.00	4.20	1.05	OK
	15	26/07/08	4.10	4.20	1.02	OK
	16	26/07/08	4.10	4.30	1.05	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.00	1.00	1.00	1.00	0%
N60-45°	2	1.11	1.11	1.14	1.07	5%
N150-45°	2	0.98	0.98	1.00	0.96	3%
S-Cs	8	0.97	0.97	1.00	0.92	3%
S-Co	2	1.01	1.01	1.01	1.00	1%
S-Cs+N60-0°	4	1.05	1.06	1.10	1.02	3%
All	20	1.00	1.01	1.14	0.92	5%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.00</b>



Results: IC2008

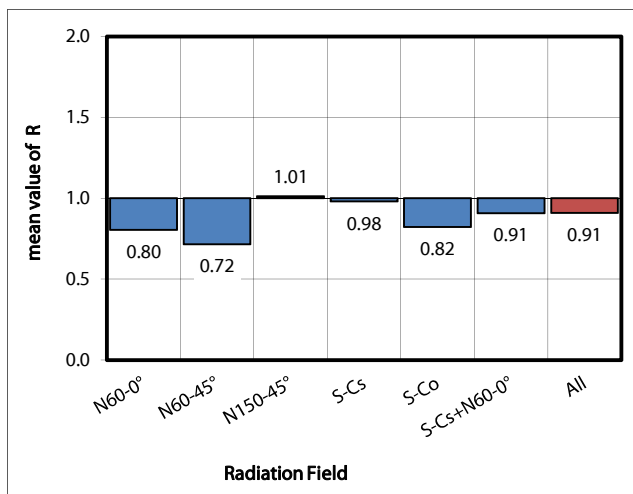
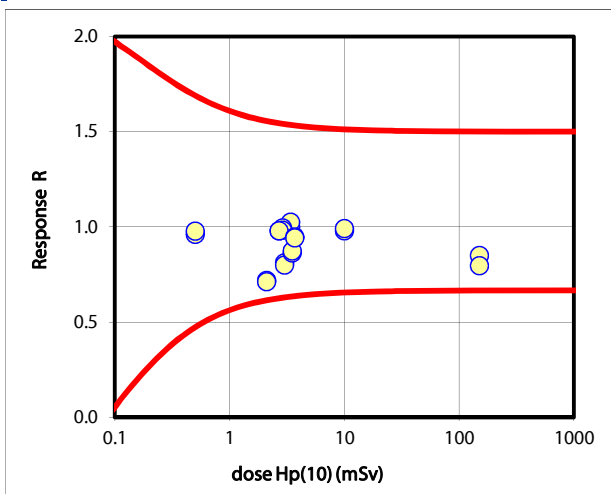
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 57 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	3.00	2.43	0.81	OK
	12	31/07/08	3.00	2.40	0.80	OK
N60-45°	17	01/08/08	2.10	1.51	0.72	OK
	18	01/08/08	2.10	1.50	0.71	OK
N150-45°	19	04/08/08	3.40	3.40	1.00	OK
	20	04/08/08	3.40	3.49	1.03	OK
S-Cs	1	25/07/08	0.50	0.48	0.96	OK
	2	25/07/08	0.50	0.49	0.98	OK
	4	29/07/08	2.70	2.65	0.98	OK
	5	29/07/08	2.90	2.89	0.99	OK
	6	29/07/08	2.90	2.85	0.98	OK
	7	29/07/08	10.00	9.79	0.98	OK
	8	29/07/08	10.00	9.91	0.99	OK
	21	29/07/08	2.70	2.64	0.98	OK
S-Co	10	04/08/08	150.00	127.45	0.85	OK
	22	04/08/08	150.00	119.43	0.80	OK
S-Cs+N60-0°	13	25/07/08	3.50	3.02	0.86	OK
	14	25/07/08	3.50	3.06	0.87	OK
	15	29/07/08	3.70	3.50	0.95	OK
	16	29/07/08	3.70	3.49	0.94	OK
not irradiated	3	WIR		0.47		
	9	WIR		101.19		
	23	NIR		0.00		
	24	NIR		0.01		
	25	BGR		0.08		
	26	BGR		0.09		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.80</b>	0.80	0.81	0.80	1%
N60-45°	2	<b>0.72</b>	0.72	0.72	0.71	1%
N150-45°	2	<b>1.01</b>	1.01	1.03	1.00	2%
S-Cs	8	<b>0.98</b>	0.98	0.99	0.96	1%
S-Co	2	<b>0.82</b>	0.82	0.85	0.80	5%
S-Cs+N60-0°	4	<b>0.91</b>	0.91	0.95	0.86	5%
All	20	<b>0.95</b>	<b>0.91</b>	<b>1.03</b>	<b>0.71</b>	<b>10%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.91</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.95</b>



Results: IC2008

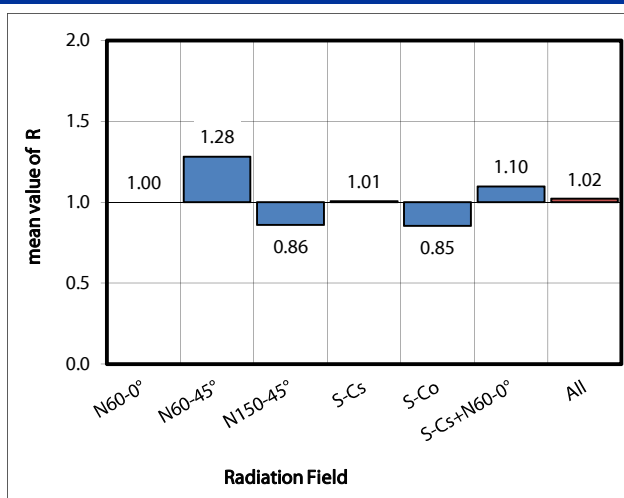
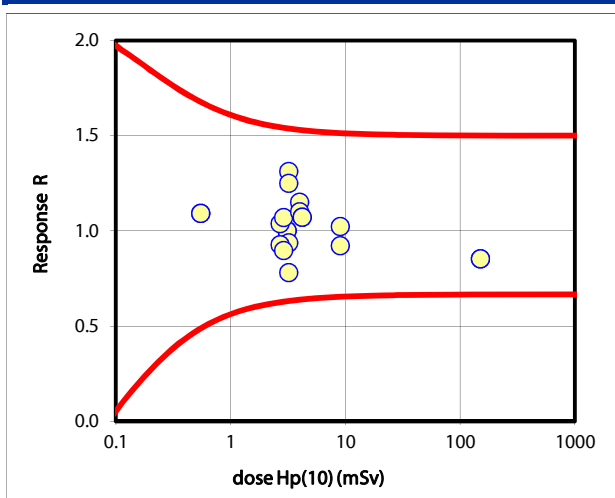
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 58 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.10	3.10	1.00	OK
	12	30/07/08	3.10	3.10	1.00	OK
N60-45°	17	31/07/08	3.20	4.20	1.31	OK
	18	31/07/08	3.20	4.00	1.25	OK
N150-45°	19	04/08/08	3.20	3.00	0.94	OK
	20	04/08/08	3.20	2.50	0.78	OK
S-Cs	1	24/07/08	0.55	0.60	1.09	OK
	2	24/07/08	0.55	0.60	1.09	OK
	3	28/07/08	2.70	2.50	0.93	OK
	4	28/07/08	2.70	2.80	1.04	OK
	5	28/07/08	2.90	3.10	1.07	OK
	6	28/07/08	2.90	2.60	0.90	OK
	7	28/07/08	9.00	8.30	0.92	OK
	8	28/07/08	9.00	9.20	1.02	OK
S-Co	9	04/08/08	150.00	128.00	0.85	OK
	10	04/08/08	150.00	128.00	0.85	OK
S-Cs+N60-0°	13	24/07/08	4.00	4.60	1.15	OK
	14	24/07/08	4.00	4.40	1.10	OK
	15	28/07/08	4.20	4.50	1.07	OK
	16	28/07/08	4.20	4.50	1.07	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.00	1.00	1.00	1.00	0%
N60-45°	2	1.28	1.28	1.31	1.25	3%
N150-45°	2	0.86	0.86	0.94	0.78	13%
S-Cs	8	1.03	1.01	1.09	0.90	8%
S-Co	2	0.85	0.85	0.85	0.85	0%
S-Cs+N60-0°	4	1.09	1.10	1.15	1.07	3%
All	20	1.03	1.02	1.31	0.78	13%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.02</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.03</b>



Results: IC2008

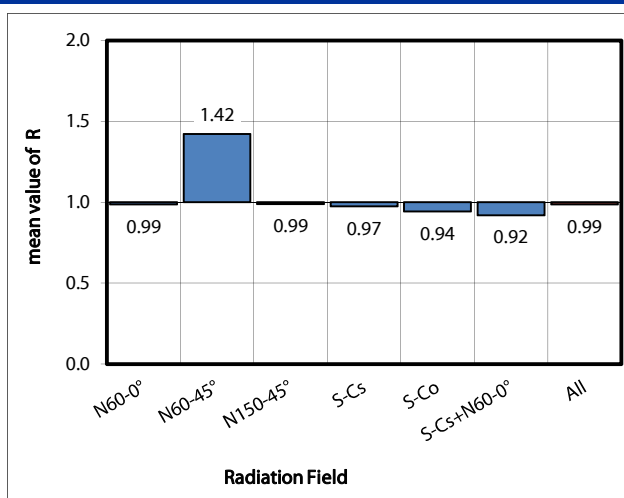
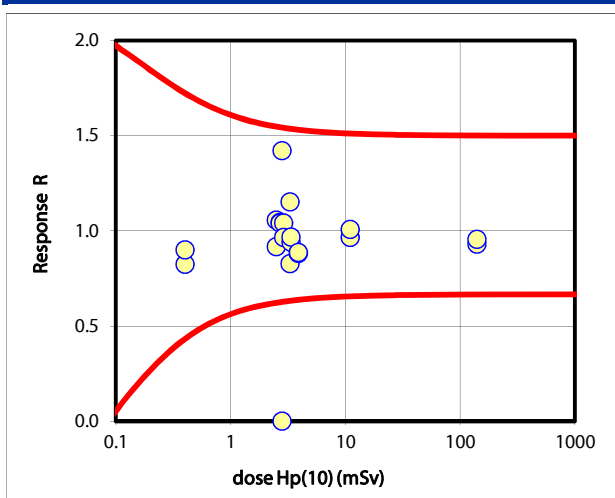
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 59 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.50	2.64	1.06	OK
	12	30/07/08	2.50	2.29	0.92	OK
N60-45°	17	31/07/08	2.80	3.98	1.42	OK
	18	31/07/08	2.80	M	-	outlier
N150-45°	19	04/08/08	3.30	2.73	0.83	OK
	20	04/08/08	3.30	3.80	1.15	OK
S-Cs	1	24/07/08	0.40	0.33	0.83	OK
	2	24/07/08	0.40	0.36	0.90	OK
	3	29/07/08	2.70	2.82	1.04	OK
	4	29/07/08	2.70	2.81	1.04	OK
	5	29/07/08	2.90	3.02	1.04	OK
	6	29/07/08	2.90	2.80	0.97	OK
	7	29/07/08	11.00	10.62	0.97	OK
	8	29/07/08	11.00	11.08	1.01	OK
S-Co	9	04/08/08	140.00	130.29	0.93	OK
	10	04/08/08	140.00	133.81	0.96	OK
S-Cs+N60-0°	13	24/07/08	3.35	3.15	0.94	OK
	14	24/07/08	3.35	3.24	0.97	OK
	15	29/07/08	3.90	3.44	0.88	OK
	16	29/07/08	3.90	3.46	0.89	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.99</b>	0.99	1.06	0.92	10%
N60-45°	1	<b>1.42</b>	1.42	1.42	1.42	-
N150-45°	2	<b>0.99</b>	0.99	1.15	0.83	23%
S-Cs	8	<b>0.99</b>	0.97	1.04	0.83	8%
S-Co	2	<b>0.94</b>	0.94	0.96	0.93	2%
S-Cs+N60-0°	4	<b>0.91</b>	0.92	0.97	0.88	5%
All	19	<b>0.97</b>	<b>0.99</b>	<b>1.42</b>	<b>0.83</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.99</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.97</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

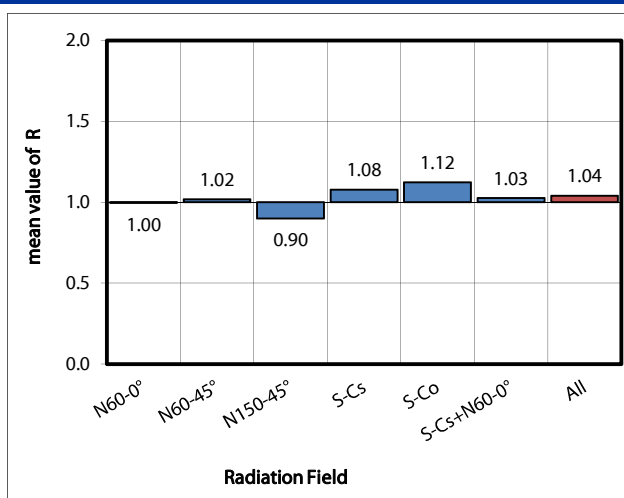
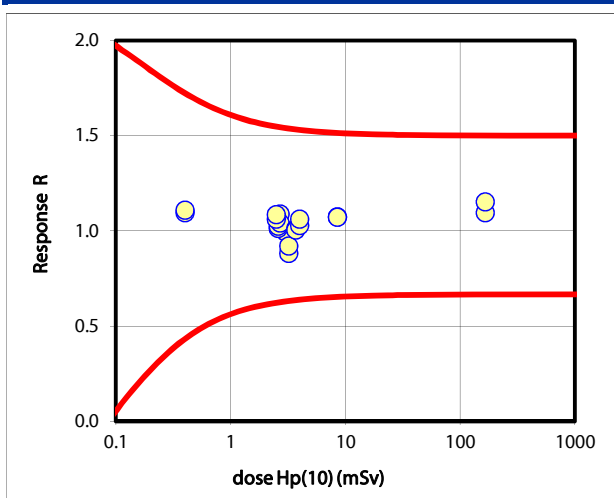


## Laboratory Nr. 60 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	3.00	2.99	1.00	OK
	12	31/07/08	3.00	2.98	0.99	OK
N60-45°	17	01/08/08	2.60	2.63	1.01	OK
	18	01/08/08	2.60	2.66	1.02	OK
N150-45°	19	04/08/08	3.20	2.82	0.88	OK
	20	04/08/08	3.20	2.94	0.92	OK
S-Cs	1	25/07/08	0.40	0.44	1.10	OK
	2	25/07/08	0.40	0.44	1.11	OK
	3	29/07/08	2.70	2.94	1.09	OK
	4	29/07/08	2.70	2.81	1.04	OK
	5	29/07/08	2.50	2.65	1.06	OK
	6	29/07/08	2.50	2.71	1.09	OK
	7	29/07/08	8.50	9.12	1.07	OK
	8	29/07/08	8.50	9.10	1.07	OK
S-Co	9	04/08/08	165.00	180.70	1.10	OK
	10	04/08/08	165.00	190.10	1.15	OK
S-Cs+N60-0°	13	25/07/08	3.70	3.74	1.01	OK
	14	25/07/08	3.70	3.72	1.00	OK
	15	29/07/08	4.00	4.11	1.03	OK
	16	29/07/08	4.00	4.25	1.06	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.01		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.00	1.00	1.00	0.99	0%
N60-45°	2	1.02	1.02	1.02	1.01	1%
N150-45°	2	0.90	0.90	0.92	0.88	3%
S-Cs	8	1.08	1.08	1.11	1.04	2%
S-Co	2	1.12	1.12	1.15	1.10	4%
S-Cs+N60-0°	4	1.02	1.03	1.06	1.00	2%
All	20	1.05	1.04	1.15	0.88	6%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.05</b>



Results: IC2008

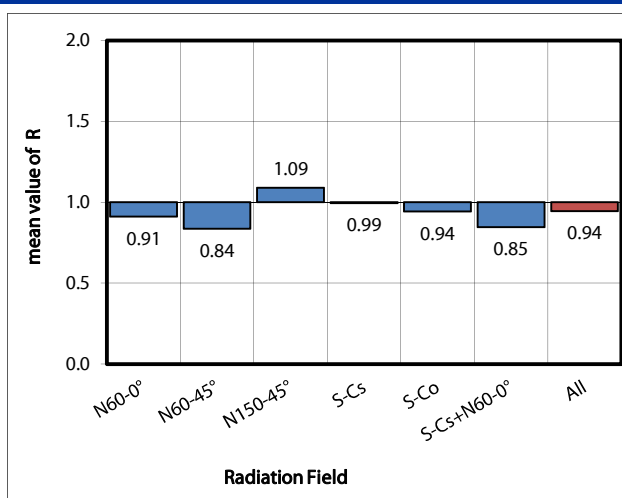
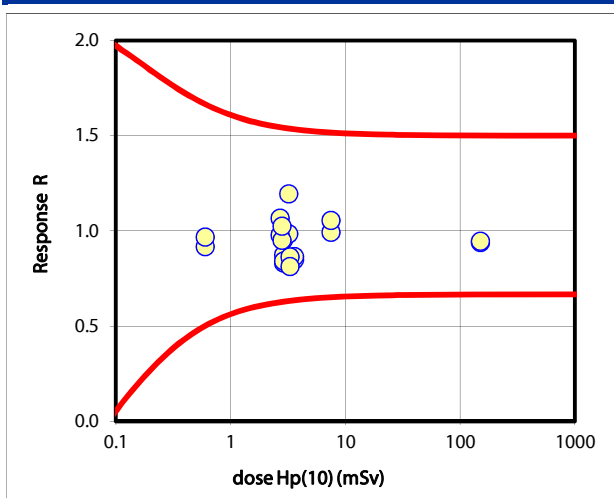
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 61 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.90	2.53	0.87	OK
	12	30/07/08	2.90	2.76	0.95	OK
N60-45°	17	31/07/08	2.90	2.41	0.83	OK
	18	31/07/08	2.90	2.44	0.84	OK
N150-45°	19	04/08/08	3.20	3.82	1.19	OK
	20	04/08/08	3.20	3.15	0.98	OK
S-Cs	1	24/07/08	0.60	0.55	0.92	OK
	2	24/07/08	0.60	0.58	0.97	OK
	3	28/07/08	2.70	2.88	1.07	OK
	4	28/07/08	2.70	2.64	0.98	OK
	5	28/07/08	2.80	2.66	0.95	OK
	6	28/07/08	2.80	2.87	1.03	OK
	7	28/07/08	7.50	7.44	0.99	OK
	8	28/07/08	7.50	7.91	1.05	OK
S-Co	9	04/08/08	150.00	140.72	0.94	OK
	10	04/08/08	150.00	141.90	0.95	OK
S-Cs+N60-0°	13	24/07/08	3.60	3.05	0.85	OK
	14	24/07/08	3.60	3.11	0.86	OK
	15	28/07/08	3.30	2.85	0.86	OK
	16	28/07/08	3.30	2.68	0.81	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.91</b>	0.91	0.95	0.87	6%
N60-45°	2	<b>0.84</b>	0.84	0.84	0.83	1%
N150-45°	2	<b>1.09</b>	1.09	1.19	0.98	14%
S-Cs	8	<b>0.98</b>	0.99	1.07	0.92	5%
S-Co	2	<b>0.94</b>	0.94	0.95	0.94	1%
S-Cs+N60-0°	4	<b>0.86</b>	0.85	0.86	0.81	3%
All	20	<b>0.95</b>	<b>0.94</b>	<b>1.19</b>	<b>0.81</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.94</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.95</b>



Results: IC2008

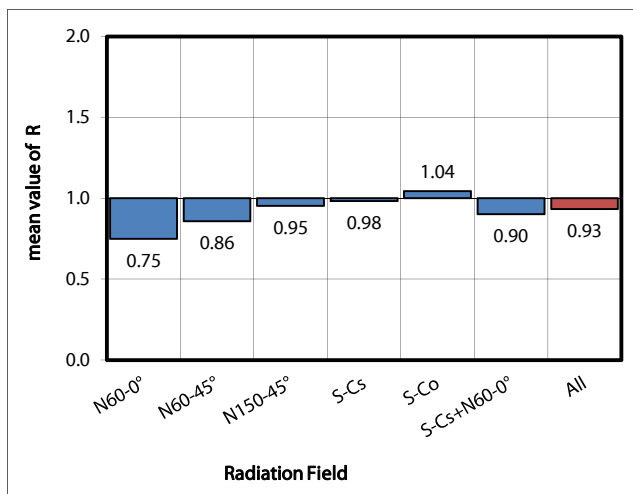
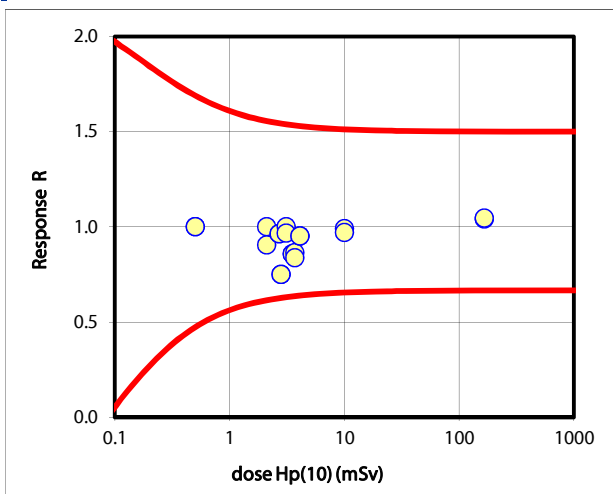
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 62 (Other) for dose quantity Hp(10)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	2.80	2.10	0.75	OK
	12	29/07/08	2.80	2.10	0.75	OK
N60-45°	17	31/07/08	3.50	3.00	0.86	OK
	18	31/07/08	3.50	3.00	0.86	OK
N150-45°	19	01/08/08	2.10	2.10	1.00	OK
	20	01/08/08	2.10	1.90	0.90	OK
S-Cs	1	23/07/08	0.50	0.50	1.00	OK
	2	23/07/08	0.50	0.50	1.00	OK
	3	25/07/08	2.70	2.60	0.96	OK
	4	25/07/08	2.70	2.60	0.96	OK
	5	25/07/08	3.10	3.10	1.00	OK
	6	25/07/08	3.10	3.00	0.97	OK
	7	25/07/08	10.00	9.90	0.99	OK
	8	25/07/08	10.00	9.70	0.97	OK
S-Co	9	04/08/08	165.00	171.70	1.04	OK
	10	04/08/08	165.00	172.60	1.05	OK
S-Cs+N60-0°	13	23/07/08	3.70	3.20	0.86	OK
	14	23/07/08	3.70	3.10	0.84	OK
	15	25/07/08	4.10	3.90	0.95	OK
	16	25/07/08	4.10	3.90	0.95	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.75</b>	0.75	0.75	0.75	0%
N60-45°	2	<b>0.86</b>	0.86	0.86	0.86	0%
N150-45°	2	<b>0.95</b>	0.95	1.00	0.90	7%
S-Cs	8	<b>0.98</b>	0.98	1.00	0.96	2%
S-Co	2	<b>1.04</b>	1.04	1.05	1.04	0%
S-Cs+N60-0°	4	<b>0.91</b>	0.90	0.95	0.84	7%
All	20	<b>0.96</b>	<b>0.93</b>	<b>1.05</b>	<b>0.75</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.93</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.96</b>



Results: IC2008

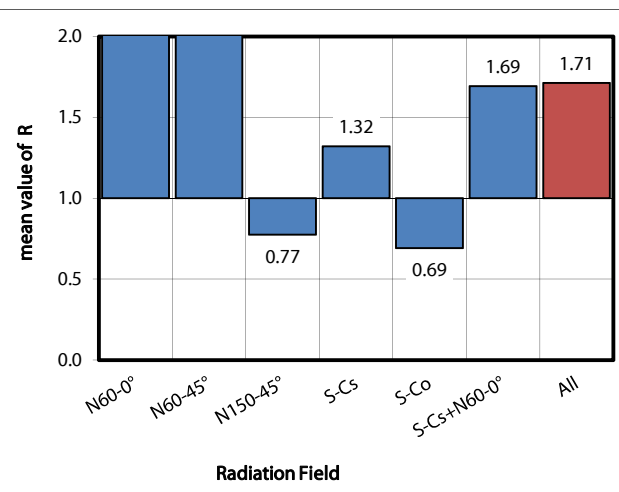
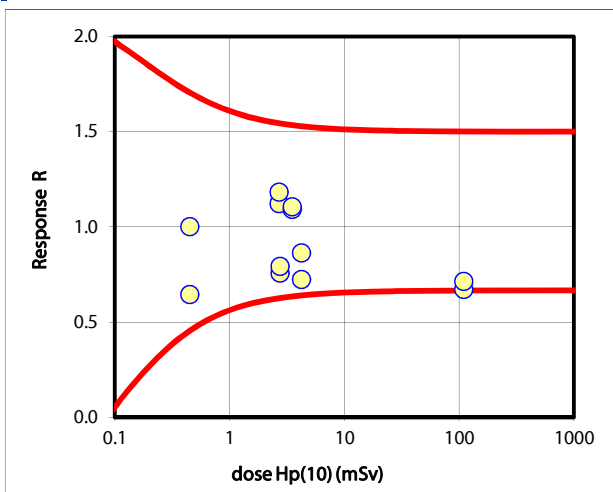
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 3 (Film) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.01	9.63	3.20	outlier
	12	14/07/08	3.01	9.14	3.04	outlier
N60-45°	17	17/07/08	2.43	8.95	3.68	outlier
	18	17/07/08	2.43	9.84	4.05	outlier
N150-45°	19	18/07/08	2.75	2.08	0.76	OK
	20	18/07/08	2.75	2.18	0.79	OK
S-Cs	1	09/07/08	0.45	0.45	1.00	OK
	2	09/07/08	0.45	0.29	0.64	OK
	3	11/07/08	2.70	3.03	1.12	OK
	4	11/07/08	2.70	3.19	1.18	OK
	5	11/07/08	3.50	3.82	1.09	OK
	6	11/07/08	3.50	3.87	1.11	OK
	7	11/07/08	9.50	21.09	2.22	outlier
	8	11/07/08	9.50	20.88	2.20	outlier
S-Co	9	21/07/08	110.00	73.89	0.67	OK
	10	21/07/08	110.00	78.42	0.71	OK
S-Cs+N60-0°	13	09/07/08	3.72	9.14	2.46	outlier
	14	09/07/08	3.72	10.14	2.73	outlier
	15	11/07/08	4.23	3.06	0.72	OK
	16	11/07/08	4.23	3.65	0.86	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>3.12</b>	3.12	3.20	3.04	4%
N60-45°	2	<b>3.87</b>	3.87	4.05	3.68	7%
N150-45°	2	<b>0.77</b>	0.77	0.79	0.76	3%
S-Cs	8	<b>1.11</b>	1.32	2.22	0.64	43%
S-Co	2	<b>0.69</b>	0.69	0.71	0.67	4%
S-Cs+N60-0°	4	<b>1.66</b>	1.69	2.73	0.72	62%
All	20	<b>1.11</b>	1.71	4.05	0.64	112%

<b>Number of outliers:</b>	<b>8</b>	<b>Arithmetic mean value of all R:</b>	<b>1.71</b>
<b>Fraction of outliers:</b>	<b>40%</b>	<b>Median value of all R:</b>	<b>1.11</b>



Results: IC2008

8 values out of diagramme range (>2)!

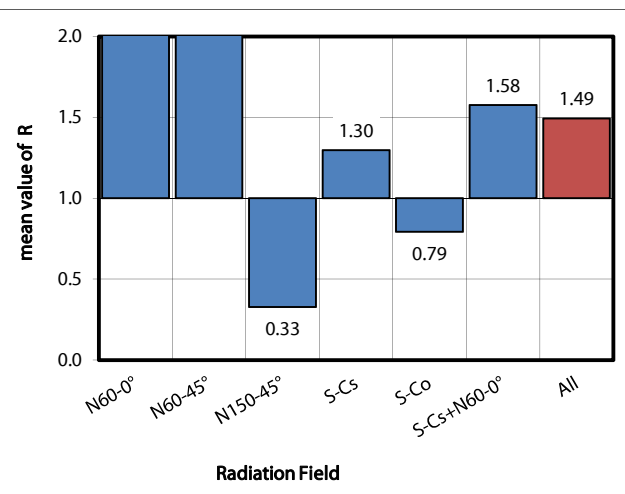
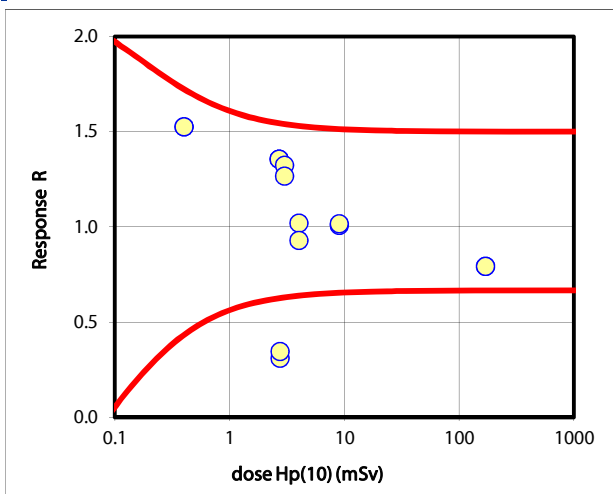
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 4 (Film) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	2.91	8.23	2.83	outlier
	12	29/07/08	2.91	8.23	2.83	outlier
N60-45°	17	31/07/08	2.13	5.72	2.69	outlier
	18	31/07/08	2.13	5.55	2.61	outlier
N150-45°	19	01/08/08	2.75	0.85	0.31	outlier
	20	01/08/08	2.75	0.95	0.35	outlier
S-Cs	1	23/07/08	0.40	0.61	1.53	OK
	2	23/07/08	0.40	0.61	1.53	OK
	3	25/07/08	2.70	3.66	1.36	OK
	4	25/07/08	2.70	3.66	1.36	OK
	5	25/07/08	3.00	3.97	1.32	OK
	6	25/07/08	3.00	3.80	1.27	OK
	7	25/07/08	9.00	9.07	1.01	OK
	8	25/07/08	9.00	9.15	1.02	OK
S-Co	9	04/08/08	170.00	134.69	0.79	OK
	10	04/08/08	170.00	134.69	0.79	OK
S-Cs+N60-0°	13	23/07/08	3.82	8.23	2.15	outlier
	14	23/07/08	3.82	8.42	2.20	outlier
	15	25/07/08	4.03	4.11	1.02	OK
	16	25/07/08	4.03	3.74	0.93	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>2.83</b>	2.83	2.83	2.83	0%
N60-45°	2	<b>2.65</b>	2.65	2.69	2.61	2%
N150-45°	2	<b>0.33</b>	0.33	0.35	0.31	8%
S-Cs	8	<b>1.34</b>	1.30	1.53	1.01	15%
S-Co	2	<b>0.79</b>	0.79	0.79	0.79	0%
S-Cs+N60-0°	4	<b>1.59</b>	1.58	2.20	0.93	44%
All	20	<b>1.34</b>	<b>1.49</b>	<b>2.83</b>	<b>0.31</b>	<b>79%</b>

<b>Number of outliers: 8</b>	<b>Arithmetic mean value of all R: 1.49</b>
<b>Fraction of outliers: 40%</b>	<b>Median value of all R: 1.34</b>



Results: IC2008

6 values out of diagramme range (>2)!

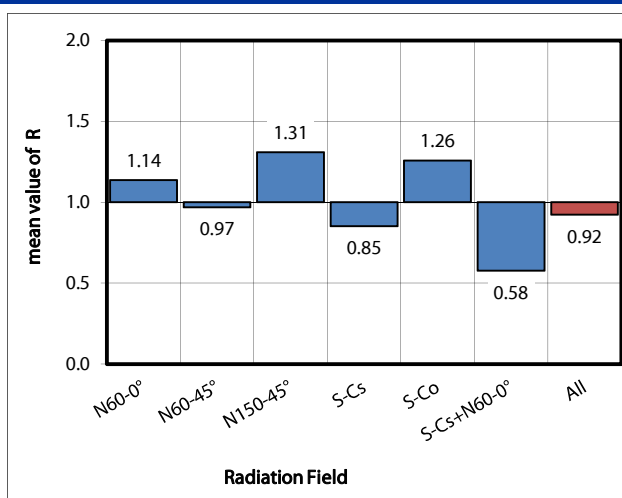
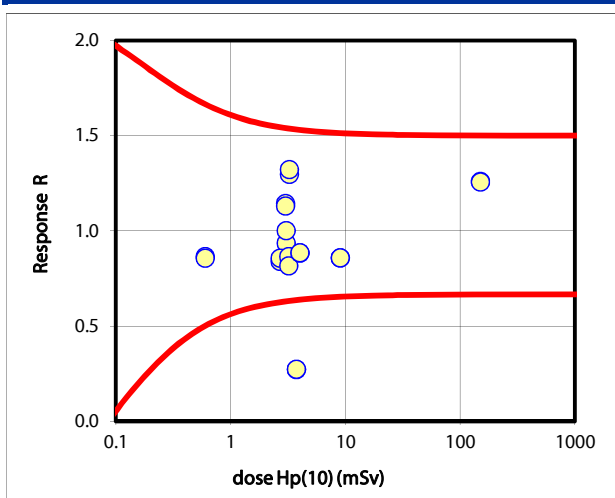
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 5 (Film) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.01	3.44	1.14	OK
	12	14/07/08	3.01	3.40	1.13	OK
N60-45°	18	16/07/08	3.04	2.85	0.94	OK
	21	16/07/08	3.04	3.04	1.00	OK
N150-45°	19	18/07/08	3.24	4.20	1.30	OK
	20	18/07/08	3.24	4.28	1.32	OK
S-Cs	1	09/07/08	0.60	0.52	0.87	OK
	2	09/07/08	0.60	0.51	0.86	OK
	3	10/07/08	2.70	2.27	0.84	OK
	4	10/07/08	2.70	2.31	0.86	OK
	5	10/07/08	3.20	2.77	0.86	OK
	6	10/07/08	3.20	2.61	0.82	OK
	7	10/07/08	9.00	7.72	0.86	OK
	8	10/07/08	9.00	7.72	0.86	OK
S-Co	9	21/07/08	150.00	188.90	1.26	OK
	10	21/07/08	150.00	188.50	1.26	OK
S-Cs+N60-0°	13	09/07/08	4.01	3.54	0.88	OK
	14	09/07/08	4.01	3.55	0.88	OK
	15	09/07/08	3.75	1.02	0.27	outlier
	16	09/07/08	3.75	1.02	0.27	outlier
not irradiated	17	WIR		1.98		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.14	1.14	1.14	1.13	1%
N60-45°	2	0.97	0.97	1.00	0.94	5%
N150-45°	2	1.31	1.31	1.32	1.30	1%
S-Cs	8	0.86	0.85	0.87	0.82	2%
S-Co	2	1.26	1.26	1.26	1.26	0%
S-Cs+N60-0°	4	0.58	0.58	0.88	0.27	61%
All	20	0.87	0.92	1.32	0.27	28%

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>0.92</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>0.87</b>



Results: IC2008

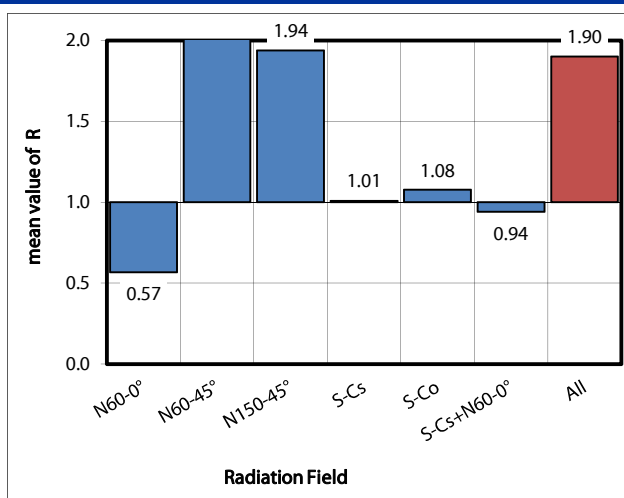
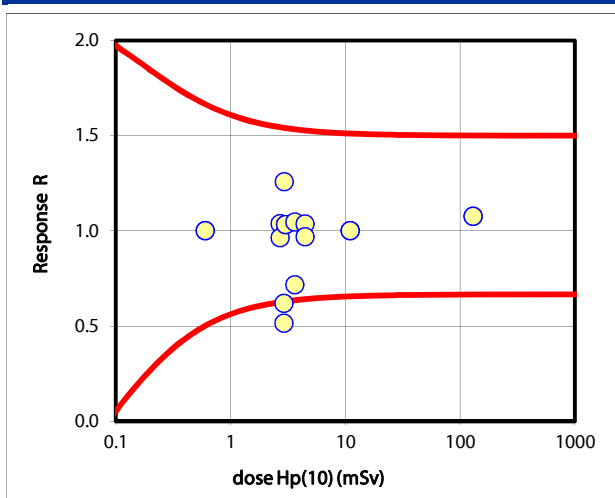
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 7 (Film) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.91	1.80	0.62	outlier
	12	14/07/08	2.91	1.50	0.52	outlier
N60-45°	17	17/07/08	2.84	27.00	9.51	outlier
	18	17/07/08	2.84	27.00	9.51	outlier
N150-45°	19	18/07/08	2.94	3.70	1.26	OK
	20	18/07/08	2.94	7.70	2.62	outlier
S-Cs	1	09/07/08	0.60	0.60	1.00	OK
	2	09/07/08	0.60	0.60	1.00	OK
	3	11/07/08	2.70	2.80	1.04	OK
	4	11/07/08	2.70	2.60	0.96	OK
	5	11/07/08	3.00	3.10	1.03	OK
	6	11/07/08	3.00	3.10	1.03	OK
	7	11/07/08	11.00	11.00	1.00	OK
	8	11/07/08	11.00	11.00	1.00	OK
S-Co	9	21/07/08	130.00	140.00	1.08	OK
	10	21/07/08	130.00	140.00	1.08	OK
S-Cs+N60-0°	13	09/07/08	3.63	2.60	0.72	OK
	14	09/07/08	3.63	3.80	1.05	OK
	15	11/07/08	4.44	4.60	1.04	OK
	16	11/07/08	4.44	4.30	0.97	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.57</b>	0.57	0.62	0.52	13%
N60-45°	2	<b>9.51</b>	9.51	9.51	9.51	0%
N150-45°	2	<b>1.94</b>	1.94	2.62	1.26	50%
S-Cs	8	<b>1.00</b>	1.01	1.04	0.96	2%
S-Co	2	<b>1.08</b>	1.08	1.08	1.08	0%
S-Cs+N60-0°	4	<b>1.00</b>	0.94	1.05	0.72	16%
All	20	<b>1.03</b>	<b>1.90</b>	<b>9.51</b>	<b>0.52</b>	<b>263%</b>

<b>Number of outliers: 5</b>	<b>Arithmetic mean value of all R: 1.90</b>	
<b>Fraction of outliers: 25%</b>	<b>Median value of all R: 1.03</b>	



Results: IC2008

3 values out of diagramme range (>2)!

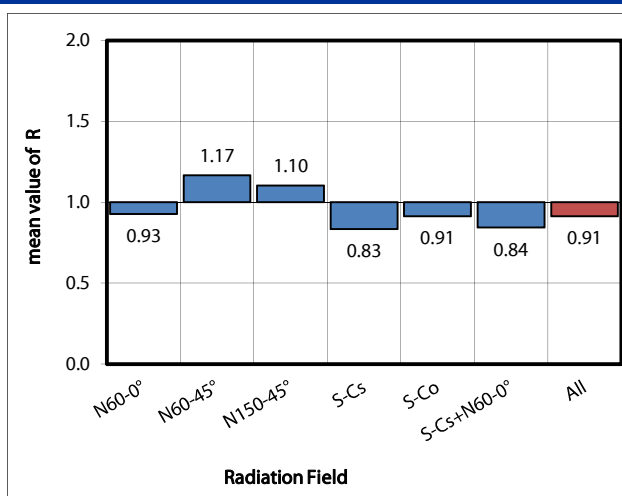
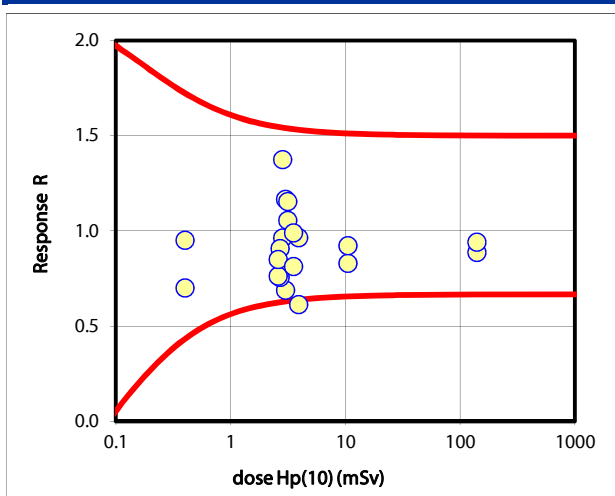
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 8 (Film) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.01	3.51	1.17	OK
	12	14/07/08	3.01	2.07	0.69	OK
N60-45°	17	17/07/08	2.84	3.90	1.37	OK
	18	17/07/08	2.84	2.73	0.96	OK
N150-45°	19	18/07/08	3.14	3.31	1.05	OK
	20	18/07/08	3.14	3.62	1.15	OK
S-Cs	1	09/07/08	0.40	0.28	0.70	OK
	2	09/07/08	0.40	0.38	0.95	OK
	3	10/07/08	2.70	2.45	0.91	OK
	4	10/07/08	2.70	2.04	0.76	OK
	5	10/07/08	2.60	1.98	0.76	OK
	6	10/07/08	2.60	2.21	0.85	OK
	7	10/07/08	10.50	8.70	0.83	OK
	8	10/07/08	10.50	9.67	0.92	OK
S-Co	9	21/07/08	140.00	124.20	0.89	OK
	10	21/07/08	140.00	131.52	0.94	OK
S-Cs+N60-0°	13	09/07/08	3.92	3.78	0.96	OK
	14	09/07/08	3.92	2.40	0.61	outlier
	15	10/07/08	3.53	3.49	0.99	OK
	16	10/07/08	3.53	2.87	0.81	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.93</b>	0.93	1.17	0.69	36%
N60-45°	2	<b>1.17</b>	1.17	1.37	0.96	25%
N150-45°	2	<b>1.10</b>	1.10	1.15	1.05	6%
S-Cs	8	<b>0.84</b>	0.83	0.95	0.70	11%
S-Co	2	<b>0.91</b>	0.91	0.94	0.89	4%
S-Cs+N60-0°	4	<b>0.89</b>	0.84	0.99	0.61	21%
All	20	<b>0.91</b>	<b>0.91</b>	<b>1.37</b>	<b>0.61</b>	<b>18%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.91</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.91</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

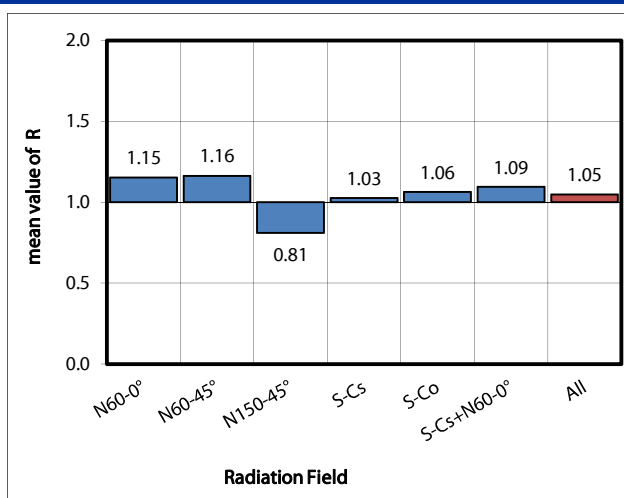
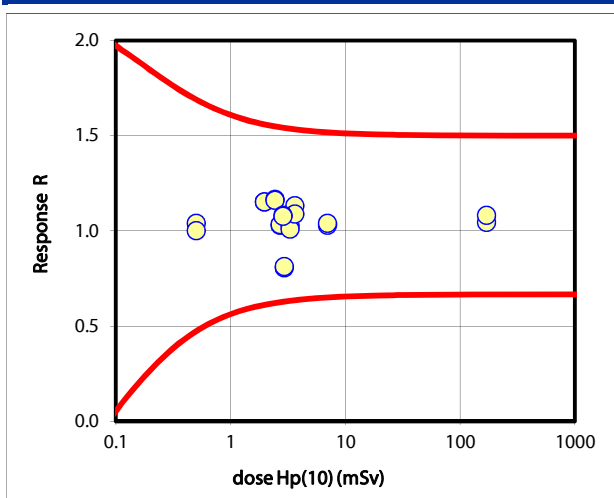


## Laboratory Nr. 11 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	1.97	2.27	1.15	OK
	12	30/07/08	1.97	2.27	1.15	OK
N60-45°	17	31/07/08	2.43	2.83	1.16	OK
	18	31/07/08	2.43	2.82	1.16	OK
N150-45°	19	04/08/08	2.94	2.37	0.81	OK
	20	04/08/08	2.94	2.39	0.81	OK
S-Cs	1	24/07/08	0.50	0.52	1.04	OK
	2	24/07/08	0.50	0.50	1.00	OK
	3	29/07/08	2.70	2.78	1.03	OK
	4	29/07/08	2.70	2.79	1.03	OK
	5	29/07/08	3.30	3.39	1.03	OK
	6	29/07/08	3.30	3.33	1.01	OK
	7	29/07/08	7.00	7.20	1.03	OK
	8	29/07/08	7.00	7.28	1.04	OK
S-Co	9	04/08/08	170.00	177.48	1.04	OK
	10	04/08/08	170.00	183.86	1.08	OK
S-Cs+N60-0°	13	24/07/08	3.62	4.10	1.13	OK
	14	24/07/08	3.62	3.94	1.09	OK
	15	29/07/08	2.85	3.08	1.08	OK
	16	29/07/08	2.85	3.07	1.08	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.15	1.15	1.15	1.15	0%
N60-45°	2	1.16	1.16	1.16	1.16	0%
N150-45°	2	0.81	0.81	0.81	0.81	1%
S-Cs	8	1.03	1.03	1.04	1.00	1%
S-Co	2	1.06	1.06	1.08	1.04	2%
S-Cs+N60-0°	4	1.08	1.09	1.13	1.08	2%
All	20	1.04	1.05	1.16	0.81	10%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.05</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.04</b>



Results: IC2008

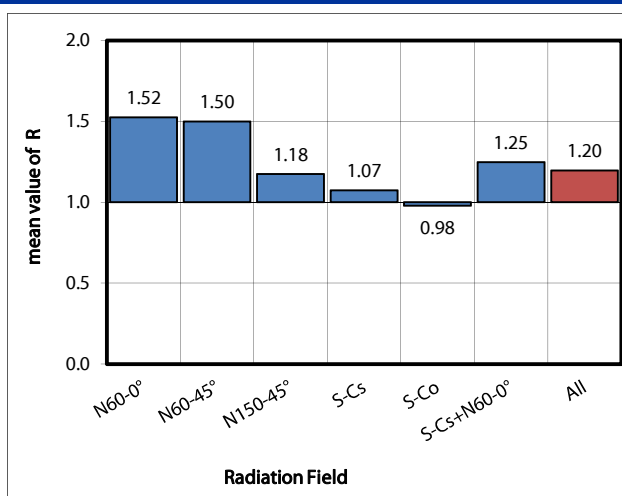
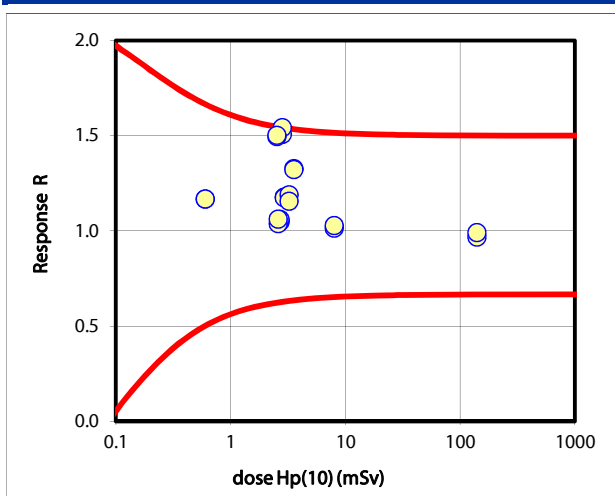
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 12 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.82	4.25	1.51	OK
	12	30/07/08	2.82	4.35	1.54	OK
N60-45°	17	31/07/08	2.53	3.78	1.49	OK
	18	31/07/08	2.53	3.80	1.50	OK
N150-45°	19	04/08/08	2.94	3.46	1.18	OK
	20	04/08/08	2.94	3.45	1.17	OK
S-Cs	1	24/07/08	0.60	0.70	1.17	OK
	2	24/07/08	0.60	0.70	1.17	OK
	3	28/07/08	2.70	2.83	1.05	OK
	4	28/07/08	2.70	2.86	1.06	OK
	5	28/07/08	2.60	2.70	1.04	OK
	6	28/07/08	2.60	2.76	1.06	OK
	7	28/07/08	8.00	8.11	1.01	OK
	8	28/07/08	8.00	8.22	1.03	OK
S-Co	9	04/08/08	140.00	135.34	0.97	OK
	10	04/08/08	140.00	138.67	0.99	OK
S-Cs+N60-0°	13	24/07/08	3.55	4.71	1.33	OK
	14	24/07/08	3.55	4.69	1.32	OK
	15	28/07/08	3.23	3.84	1.19	OK
	16	28/07/08	3.23	3.73	1.15	OK
not irradiated	21	NIR		0.07		
	22	NIR		0.07		
	23	NIR		0.07		
	24	NIR		0.07		
	25	BGR		0.08		
	26	BGR		0.07		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.52	1.52	1.54	1.51	2%
N60-45°	2	1.50	1.50	1.50	1.49	0%
N150-45°	2	1.18	1.18	1.18	1.17	0%
S-Cs	8	1.05	1.07	1.17	1.01	6%
S-Co	2	0.98	0.98	0.99	0.97	2%
S-Cs+N60-0°	4	1.25	1.25	1.33	1.15	7%
All	20	1.17	1.20	1.54	0.97	19%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.20</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.17</b>



Results: IC2008

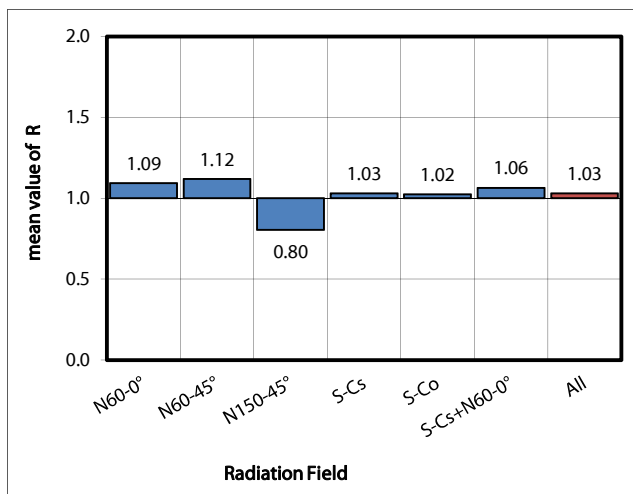
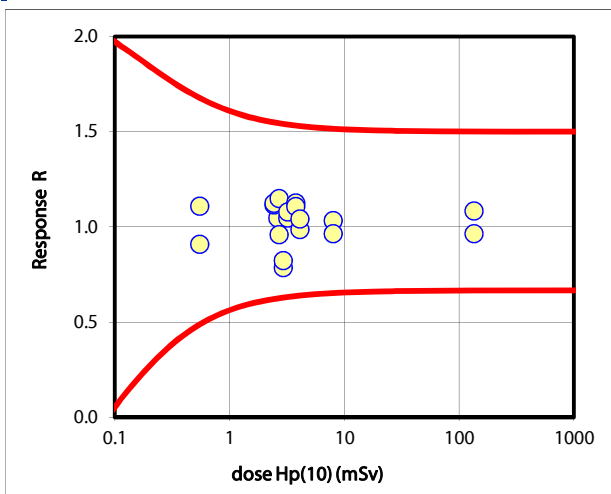
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 15 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.63	3.00	1.14	OK
	12	14/07/08	2.63	2.75	1.05	OK
N60-45°	17	17/07/08	2.43	2.71	1.12	OK
	18	17/07/08	2.43	2.73	1.12	OK
N150-45°	19	18/07/08	2.94	2.31	0.79	OK
	20	18/07/08	2.94	2.42	0.82	OK
S-Cs	1	09/07/08	0.55	0.50	0.91	OK
	2	09/07/08	0.55	0.61	1.11	OK
	3	10/07/08	2.70	3.10	1.15	OK
	4	10/07/08	2.70	2.59	0.96	OK
	5	10/07/08	3.20	3.35	1.05	OK
	6	10/07/08	3.20	3.45	1.08	OK
	7	10/07/08	8.00	8.26	1.03	OK
	8	10/07/08	8.00	7.71	0.96	OK
S-Co	9	21/07/08	135.00	130.15	0.96	OK
	10	21/07/08	135.00	146.22	1.08	OK
S-Cs+N60-0°	13	09/07/08	3.76	4.23	1.13	OK
	14	09/07/08	3.76	4.16	1.11	OK
	15	10/07/08	4.10	4.04	0.99	OK
	16	10/07/08	4.10	4.27	1.04	OK
not irradiated	21	NIR		0.01		
	22	NIR		0.01		
	23	NIR		0.03		
	24	NIR		0.02		
	25	BGR		0.02		
	26	BGR		0.03		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.09	1.09	1.14	1.05	6%
N60-45°	2	1.12	1.12	1.12	1.12	1%
N150-45°	2	0.80	0.80	0.82	0.79	3%
S-Cs	8	1.04	1.03	1.15	0.91	8%
S-Co	2	1.02	1.02	1.08	0.96	8%
S-Cs+N60-0°	4	1.07	1.06	1.13	0.99	6%
All	20	1.05	1.03	1.15	0.79	10%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.03</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.05</b>



Results: IC2008

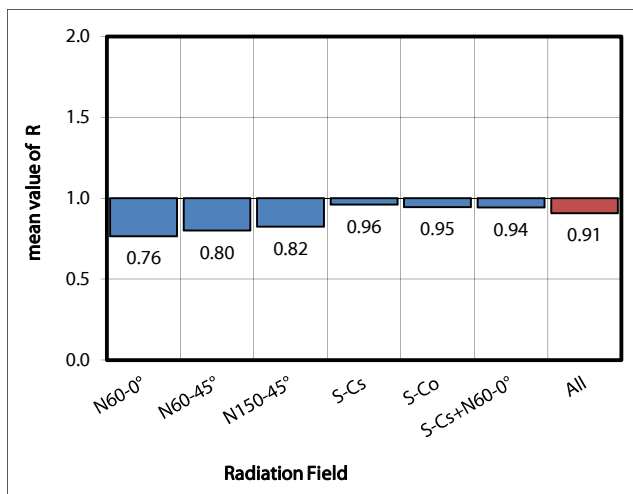
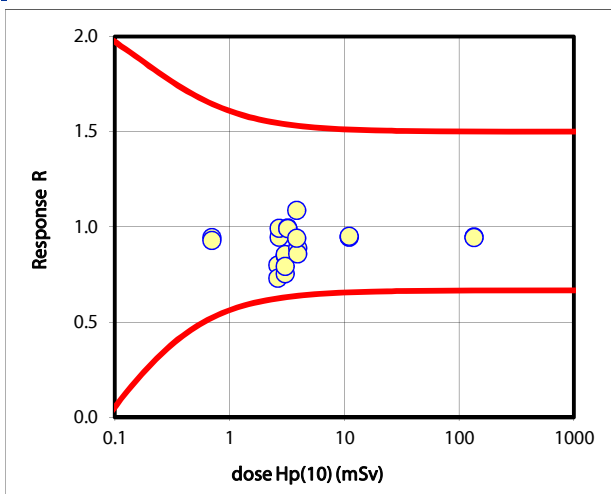
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 17 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.63	2.10	0.80	OK
	12	14/07/08	2.63	1.92	0.73	OK
N60-45°	17	17/07/08	3.04	2.29	0.75	OK
	18	17/07/08	3.04	2.58	0.85	OK
N150-45°	19	18/07/08	3.04	2.60	0.86	OK
	20	18/07/08	3.04	2.41	0.79	OK
S-Cs	1	09/07/08	0.70	0.66	0.94	OK
	2	09/07/08	0.70	0.65	0.93	OK
	3	11/07/08	2.70	2.55	0.94	OK
	4	11/07/08	2.70	2.68	0.99	OK
	5	11/07/08	3.20	3.18	0.99	OK
	6	11/07/08	3.20	3.17	0.99	OK
	7	11/07/08	11.00	10.40	0.95	OK
	8	11/07/08	11.00	10.46	0.95	OK
S-Co	9	21/07/08	135.00	127.92	0.95	OK
	10	21/07/08	135.00	127.45	0.94	OK
S-Cs+N60-0°	13	09/07/08	3.92	3.48	0.89	OK
	14	09/07/08	3.92	3.36	0.86	OK
	21	18/07/08	3.83	4.16	1.09	OK
	22	18/07/08	3.83	3.60	0.94	OK
not irradiated	15	WIR		3.52		
	16	WIR		3.49		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.76	0.76	0.80	0.73	6%
N60-45°	2	0.80	0.80	0.85	0.75	8%
N150-45°	2	0.82	0.82	0.86	0.79	5%
S-Cs	8	0.95	0.96	0.99	0.93	3%
S-Co	2	0.95	0.95	0.95	0.94	0%
S-Cs+N60-0°	4	0.91	0.94	1.09	0.86	11%
All	20	0.94	0.91	1.09	0.73	9%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.91</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

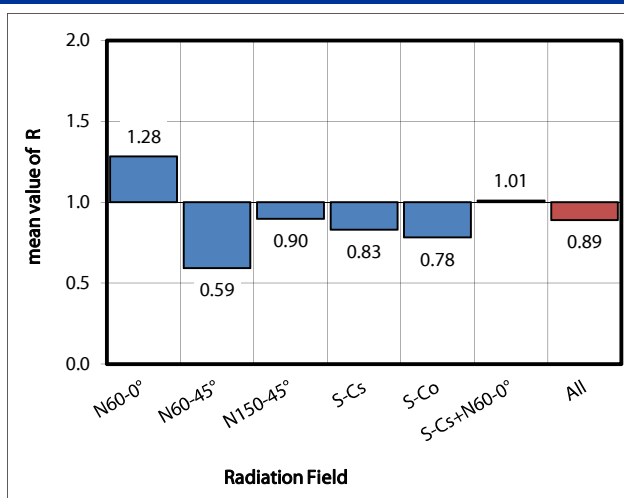
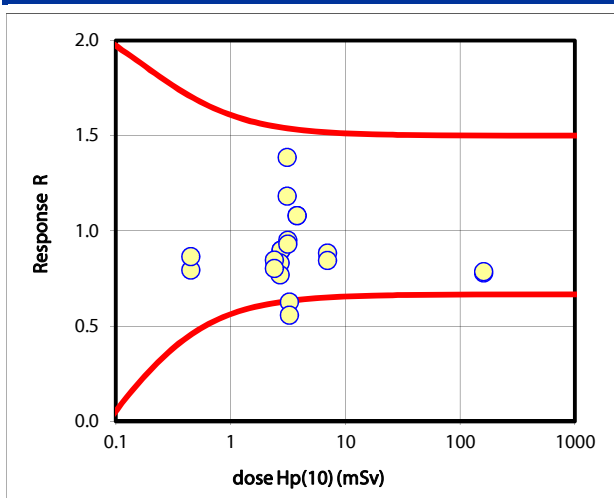
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 18 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.10	3.66	1.18	OK
	12	30/07/08	3.10	4.30	1.39	OK
N60-45°	17	31/07/08	3.24	2.03	0.63	outlier
	18	31/07/08	3.24	1.81	0.56	outlier
N150-45°	19	04/08/08	2.75	2.47	0.90	OK
	20	04/08/08	2.75	2.47	0.90	OK
S-Cs	1	24/07/08	0.45	0.36	0.79	OK
	2	24/07/08	0.45	0.39	0.86	OK
	3	28/07/08	2.70	2.24	0.83	OK
	4	28/07/08	2.70	2.08	0.77	OK
	5	28/07/08	2.40	2.03	0.85	OK
	6	28/07/08	2.40	1.93	0.80	OK
	7	28/07/08	7.00	6.18	0.88	OK
	8	28/07/08	7.00	5.91	0.84	OK
S-Co	9	04/08/08	160.00	124.70	0.78	OK
	10	04/08/08	160.00	125.70	0.79	OK
S-Cs+N60-0°	13	24/07/08	3.79	4.09	1.08	OK
	14	24/07/08	3.79	4.09	1.08	OK
	15	28/07/08	3.15	2.99	0.95	OK
	16	28/07/08	3.15	2.93	0.93	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.28</b>	1.28	1.39	1.18	11%
N60-45°	2	<b>0.59</b>	0.59	0.63	0.56	8%
N150-45°	2	<b>0.90</b>	0.90	0.90	0.90	0%
S-Cs	8	<b>0.84</b>	0.83	0.88	0.77	5%
S-Co	2	<b>0.78</b>	0.78	0.79	0.78	1%
S-Cs+N60-0°	4	<b>1.01</b>	1.01	1.08	0.93	8%
All	20	<b>0.86</b>	<b>0.89</b>	<b>1.39</b>	<b>0.56</b>	<b>19%</b>

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>0.89</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>0.86</b>



Results: IC2008

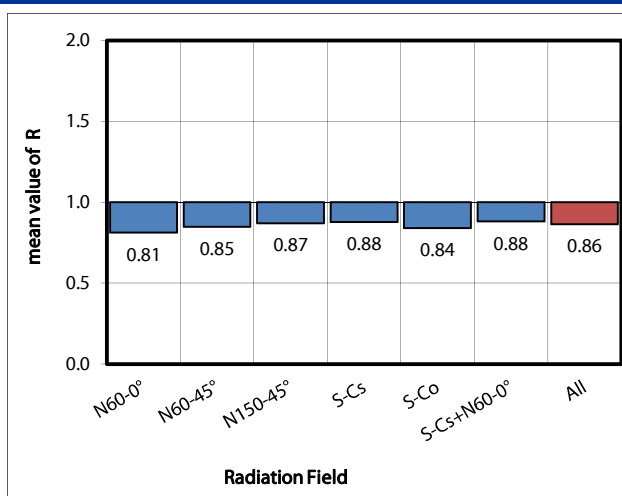
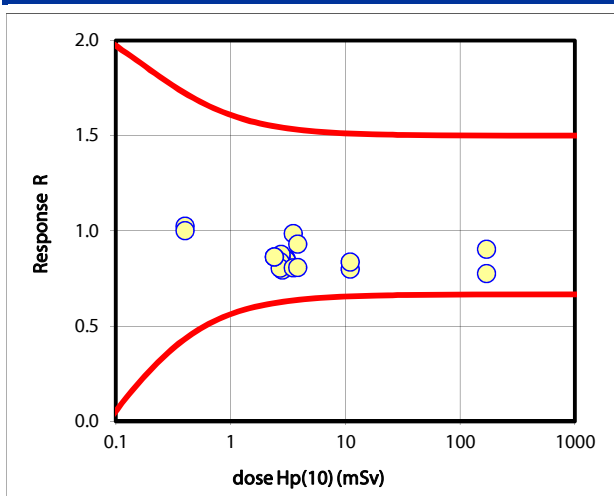
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 20 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.82	2.24	0.79	OK
	12	30/07/08	2.82	2.34	0.83	OK
N60-45°	17	31/07/08	3.04	2.59	0.85	OK
	18	31/07/08	3.04	2.57	0.85	OK
N150-45°	19	04/08/08	2.75	2.37	0.86	OK
	20	04/08/08	2.75	2.41	0.88	OK
S-Cs	1	24/07/08	0.40	0.41	1.03	OK
	2	24/07/08	0.40	0.40	1.00	OK
	3	28/07/08	2.70	2.26	0.84	OK
	4	28/07/08	2.70	2.17	0.80	OK
	5	28/07/08	2.40	2.07	0.86	OK
	6	28/07/08	2.40	2.07	0.86	OK
	7	28/07/08	11.00	8.79	0.80	OK
	8	28/07/08	11.00	9.20	0.84	OK
S-Co	9	04/08/08	170.00	131.84	0.78	OK
	10	04/08/08	170.00	153.68	0.90	OK
S-Cs+N60-0°	13	24/07/08	3.51	2.83	0.81	OK
	14	24/07/08	3.51	3.46	0.99	OK
	15	28/07/08	3.85	3.11	0.81	OK
	16	28/07/08	3.85	3.58	0.93	OK
not irradiated	21	NIR		0.09		
	22	NIR		0.09		
	23	NIR		0.09		
	24	NIR		0.11		
	25	BGR		0.09		
	26	BGR		0.09		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.81</b>	0.81	0.83	0.79	3%
N60-45°	2	<b>0.85</b>	0.85	0.85	0.85	1%
N150-45°	2	<b>0.87</b>	0.87	0.88	0.86	1%
S-Cs	8	<b>0.85</b>	0.88	1.03	0.80	10%
S-Co	2	<b>0.84</b>	0.84	0.90	0.78	11%
S-Cs+N60-0°	4	<b>0.87</b>	0.88	0.99	0.81	10%
All	20	<b>0.85</b>	<b>0.86</b>	<b>1.03</b>	<b>0.78</b>	<b>7%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.86</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.85</b>



Results: IC2008

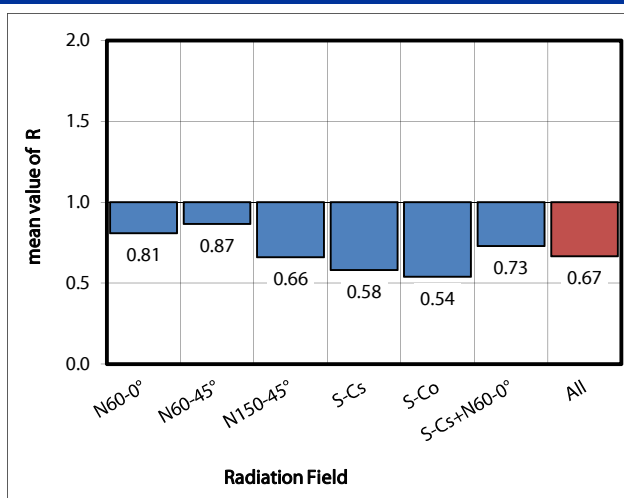
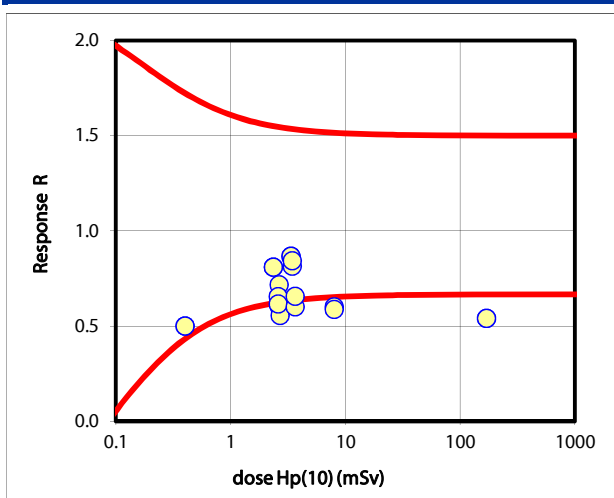
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 21 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.35	1.90	0.81	OK
	12	31/07/08	2.35	1.90	0.81	OK
N60-45°	17	01/08/08	3.35	2.90	0.87	OK
	18	01/08/08	3.35	2.90	0.87	OK
N150-45°	19	04/08/08	2.65	1.60	0.60	outlier
	20	04/08/08	2.65	1.90	0.72	OK
S-Cs	1	25/07/08	0.40	0.20	0.50	OK
	2	25/07/08	0.40	0.20	0.50	OK
	3	29/07/08	2.70	1.50	0.56	outlier
	4	29/07/08	2.70	1.70	0.63	OK
	5	29/07/08	2.60	1.70	0.65	OK
	6	29/07/08	2.60	1.60	0.62	outlier
	7	29/07/08	8.00	4.80	0.60	outlier
	8	29/07/08	8.00	4.70	0.59	outlier
S-Co	9	04/08/08	170.00	91.70	0.54	outlier
	10	04/08/08	170.00	91.80	0.54	outlier
S-Cs+N60-0°	13	25/07/08	3.44	2.80	0.81	OK
	14	25/07/08	3.44	2.90	0.84	OK
	15	29/07/08	3.66	2.20	0.60	outlier
	16	29/07/08	3.66	2.40	0.66	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.81</b>	0.81	0.81	0.81	0%
N60-45°	2	<b>0.87</b>	0.87	0.87	0.87	0%
N150-45°	2	<b>0.66</b>	0.66	0.72	0.60	12%
S-Cs	8	<b>0.59</b>	0.58	0.65	0.50	10%
S-Co	2	<b>0.54</b>	0.54	0.54	0.54	0%
S-Cs+N60-0°	4	<b>0.73</b>	0.73	0.84	0.60	16%
All	20	<b>0.62</b>	<b>0.67</b>	<b>0.87</b>	<b>0.50</b>	<b>13%</b>

<b>Number of outliers: 8</b>	<b>Arithmetic mean value of all R: 0.67</b>
<b>Fraction of outliers: 40%</b>	<b>Median value of all R: 0.62</b>



Results: IC2008

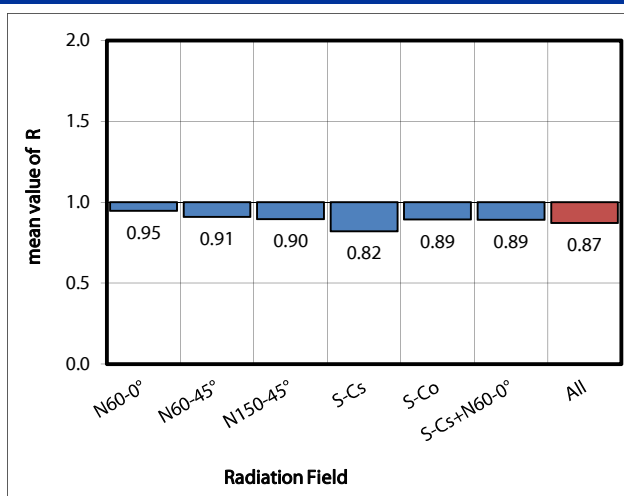
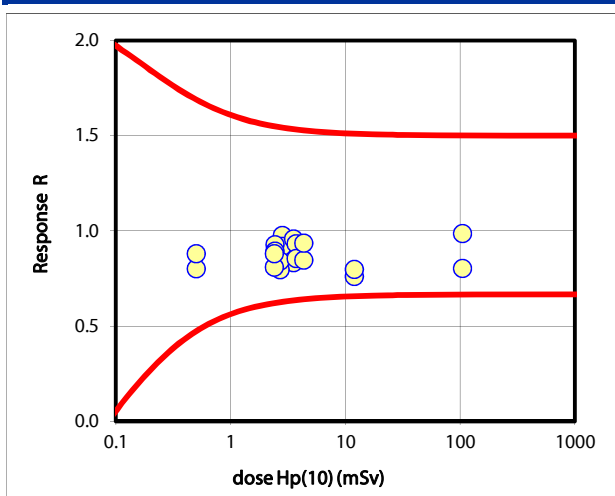
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 22 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.82	2.75	0.98	OK
	12	14/07/08	2.82	2.59	0.92	OK
N60-45°	17	17/07/08	2.43	2.25	0.93	OK
	18	17/07/08	2.43	2.17	0.89	OK
N150-45°	19	18/07/08	3.53	3.38	0.96	OK
	20	18/07/08	3.53	2.94	0.83	OK
S-Cs	1	09/07/08	0.50	0.40	0.80	OK
	2	09/07/08	0.50	0.44	0.88	OK
	3	10/07/08	2.70	2.15	0.80	OK
	4	10/07/08	2.70	2.27	0.84	OK
	5	10/07/08	2.40	1.94	0.81	OK
	6	10/07/08	2.40	2.11	0.88	OK
	7	10/07/08	12.00	9.13	0.76	OK
	8	10/07/08	12.00	9.56	0.80	OK
S-Co	9	21/07/08	105.00	84.18	0.80	OK
	10	21/07/08	105.00	103.56	0.99	OK
S-Cs+N60-0°	13	09/07/08	3.71	3.46	0.93	OK
	14	09/07/08	3.71	3.17	0.85	OK
	15	10/07/08	4.33	3.66	0.85	OK
	16	10/07/08	4.33	4.05	0.94	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.16		
	26	BGR		0.15		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.95</b>	0.95	0.98	0.92	4%
N60-45°	2	<b>0.91</b>	0.91	0.93	0.89	3%
N150-45°	2	<b>0.90</b>	0.90	0.96	0.83	10%
S-Cs	8	<b>0.80</b>	0.82	0.88	0.76	5%
S-Co	2	<b>0.89</b>	0.89	0.99	0.80	15%
S-Cs+N60-0°	4	<b>0.89</b>	0.89	0.94	0.85	5%
All	20	<b>0.87</b>	<b>0.87</b>	<b>0.99</b>	<b>0.76</b>	<b>7%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.87</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.87</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

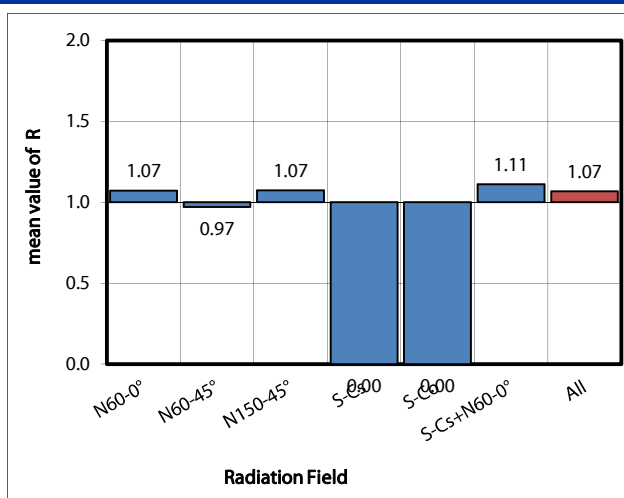
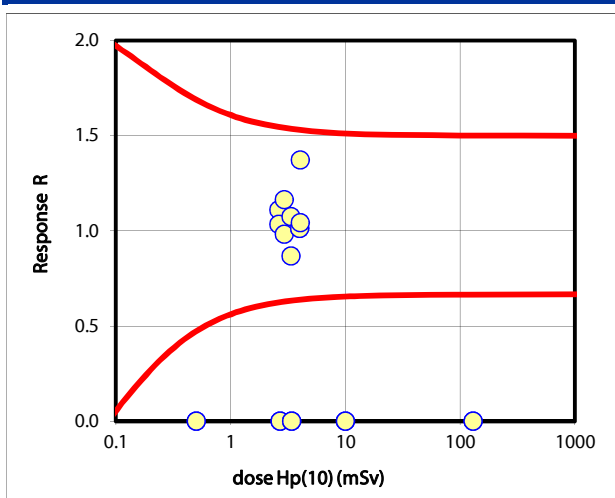


## Laboratory Nr. 23 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.63	2.92	1.11	OK
	12	15/07/08	2.63	2.72	1.03	OK
N60-45°	17	17/07/08	3.35	2.91	0.87	OK
	18	17/07/08	3.35	3.60	1.07	OK
N150-45°	19	18/07/08	2.94	2.89	0.98	OK
	20	18/07/08	2.94	3.42	1.16	OK
S-Cs	1	09/07/08	0.50	-	-	outlier
	2	09/07/08	0.50	-	-	outlier
	3	12/07/08	2.70	-	-	outlier
	4	12/07/08	2.70	-	-	outlier
	5	12/07/08	3.40	-	-	outlier
	6	12/07/08	3.40	-	-	outlier
	7	12/07/08	10.00	-	-	outlier
	8	12/07/08	10.00	-	-	outlier
S-Co	9	21/07/08	130.00	-	-	outlier
	10	21/07/08	130.00	-	-	outlier
S-Cs+N60-0°	13	09/07/08	4.00	4.06	1.02	OK
	14	09/07/08	4.00	4.05	1.01	OK
	15	12/07/08	4.05	5.56	1.37	OK
	16	12/07/08	4.05	4.22	1.04	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.07</b>	1.07	1.11	1.03	5%
N60-45°	2	<b>0.97</b>	0.97	1.07	0.87	15%
N150-45°	2	<b>1.07</b>	1.07	1.16	0.98	12%
S-Cs	0	-	-	-	-	-
S-Co	0	-	-	-	-	-
S-Cs+N60-0°	4	<b>1.03</b>	1.11	1.37	1.01	16%
All	10	<b>1.04</b>	<b>1.07</b>	<b>1.37</b>	<b>0.87</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>10</b>	<b>Arithmetic mean value of all R:</b>	<b>1.07</b>
<b>Fraction of outliers:</b>	<b>50%</b>	<b>Median value of all R:</b>	<b>1.04</b>



Results: IC2008

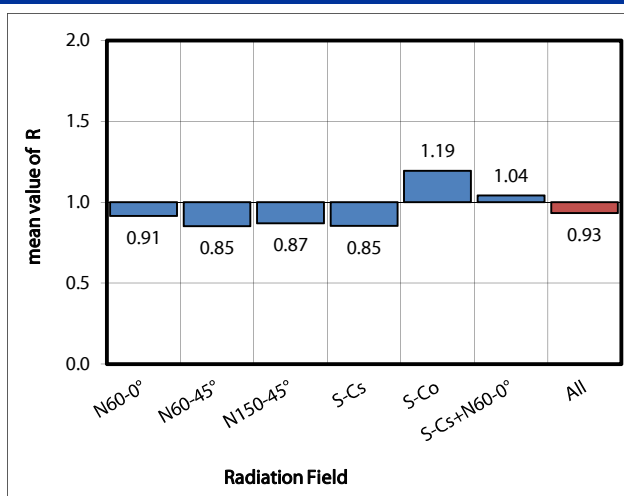
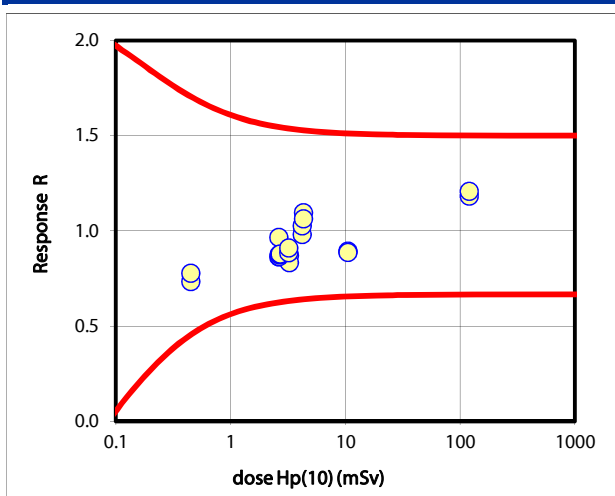
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 24 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.63	2.54	0.97	OK
	12	15/07/08	2.63	2.27	0.86	OK
N60-45°	17	17/07/08	3.24	2.82	0.87	OK
	18	17/07/08	3.24	2.70	0.83	OK
N150-45°	19	18/07/08	2.65	2.29	0.86	OK
	20	18/07/08	2.65	2.32	0.88	OK
S-Cs	1	09/07/08	0.45	0.33	0.73	OK
	2	09/07/08	0.45	0.35	0.78	OK
	3	12/07/08	2.70	2.36	0.87	OK
	4	12/07/08	2.70	2.37	0.88	OK
	5	12/07/08	3.20	2.83	0.88	OK
	6	12/07/08	3.20	2.91	0.91	OK
	7	12/07/08	10.50	9.37	0.89	OK
	8	12/07/08	10.50	9.30	0.89	OK
S-Co	9	21/07/08	120.00	141.86	1.18	OK
	10	21/07/08	120.00	144.84	1.21	OK
S-Cs+N60-0°	13	09/07/08	4.21	4.13	0.98	OK
	14	09/07/08	4.21	4.32	1.03	OK
	15	12/07/08	4.32	4.73	1.09	OK
	16	12/07/08	4.32	4.59	1.06	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.35		
	23	NIR		0.33		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.91</b>	0.91	0.97	0.86	8%
N60-45°	2	<b>0.85</b>	0.85	0.87	0.83	3%
N150-45°	2	<b>0.87</b>	0.87	0.88	0.86	1%
S-Cs	8	<b>0.88</b>	0.85	0.91	0.73	7%
S-Co	2	<b>1.19</b>	1.19	1.21	1.18	1%
S-Cs+N60-0°	4	<b>1.04</b>	1.04	1.09	0.98	5%
All	20	<b>0.89</b>	<b>0.93</b>	<b>1.21</b>	<b>0.73</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.93</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.89</b>



Results: IC2008

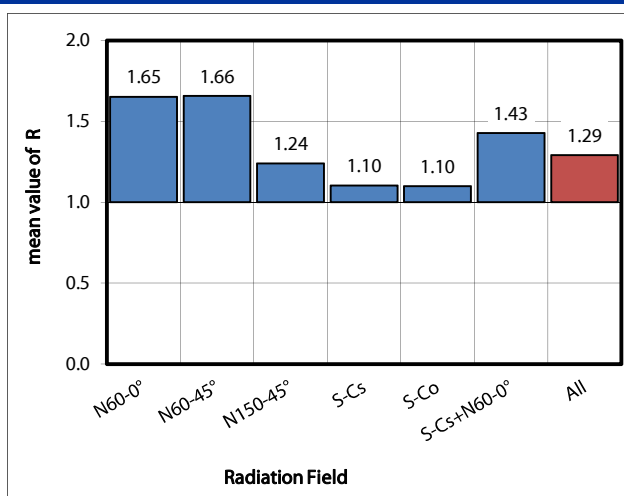
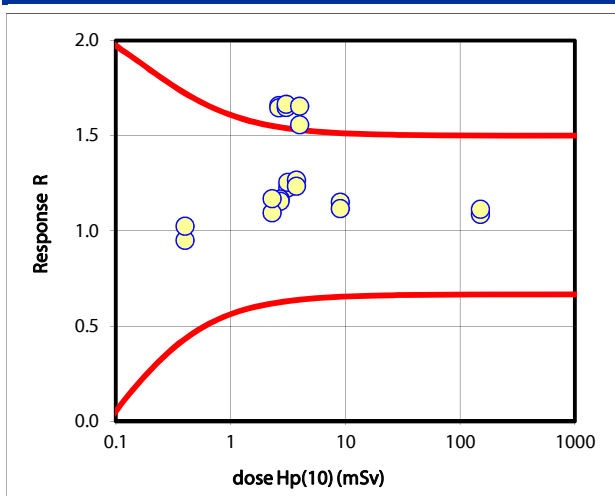
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 25 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.63	4.36	1.66	outlier
	12	31/07/08	2.63	4.33	1.65	outlier
N60-45°	17	01/08/08	3.04	5.01	1.65	outlier
	18	01/08/08	3.04	5.06	1.66	outlier
N150-45°	19	04/08/08	3.14	3.85	1.23	OK
	20	04/08/08	3.14	3.94	1.25	OK
S-Cs	1	25/07/08	0.40	0.38	0.95	OK
	2	25/07/08	0.40	0.41	1.03	OK
	3	29/07/08	2.70	3.15	1.17	OK
	4	29/07/08	2.70	3.12	1.16	OK
	6	29/07/08	2.30	2.52	1.10	OK
	7	29/07/08	9.00	10.35	1.15	OK
	8	29/07/08	9.00	10.05	1.12	OK
S-Co	9	04/08/08	150.00	163.06	1.09	OK
	10	04/08/08	150.00	166.98	1.11	OK
S-Cs+N60-0°	13	25/07/08	3.99	6.60	1.65	outlier
	14	25/07/08	3.99	6.21	1.56	outlier
	15	29/07/08	3.75	4.75	1.27	OK
	16	29/07/08	3.75	4.63	1.23	OK
not irradiated	5	NIR		1.95		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.65	1.65	1.66	1.65	0%
N60-45°	2	1.66	1.66	1.66	1.65	1%
N150-45°	2	1.24	1.24	1.25	1.23	2%
S-Cs	8	1.13	1.10	1.17	0.95	7%
S-Co	2	1.10	1.10	1.11	1.09	2%
S-Cs+N60-0°	4	1.41	1.43	1.65	1.23	15%
All	20	1.20	1.29	1.66	0.95	24%

<b>Number of outliers:</b>	<b>6</b>	<b>Arithmetic mean value of all R:</b>	<b>1.29</b>
<b>Fraction of outliers:</b>	<b>30%</b>	<b>Median value of all R:</b>	<b>1.20</b>



Results: IC2008

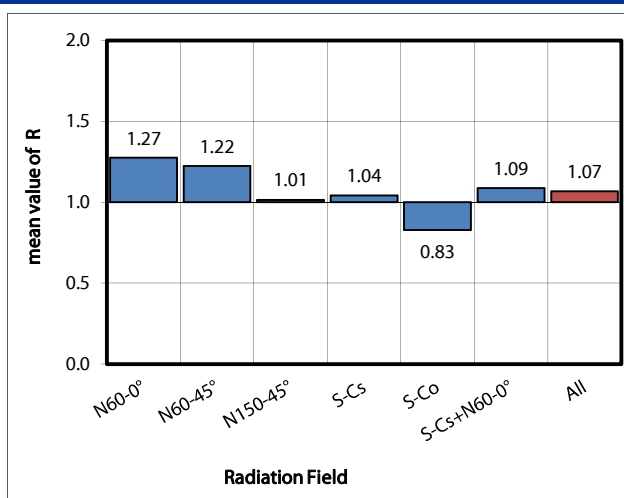
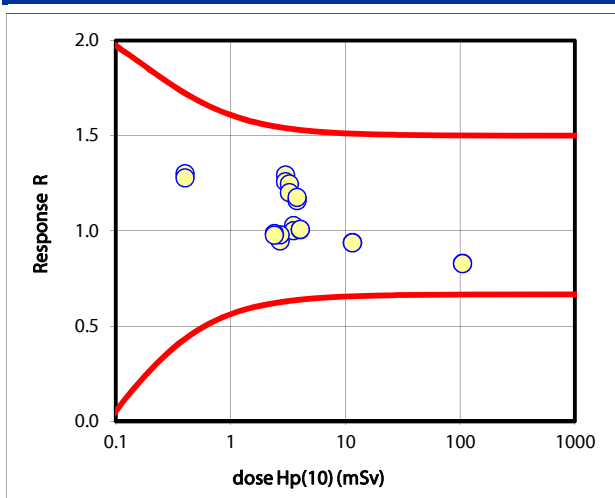
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 26 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.01	3.89	1.29	OK
	12	14/07/08	3.01	3.78	1.26	OK
N60-45°	17	17/07/08	3.24	4.04	1.25	OK
	18	17/07/08	3.24	3.89	1.20	OK
N150-45°	19	18/07/08	3.53	3.63	1.03	OK
	20	18/07/08	3.53	3.53	1.00	OK
S-Cs	1	09/07/08	0.40	0.52	1.30	OK
	2	09/07/08	0.40	0.51	1.28	OK
	3	10/07/08	2.70	2.56	0.95	OK
	4	10/07/08	2.70	2.64	0.98	OK
	5	10/07/08	2.40	2.37	0.99	OK
	6	10/07/08	2.40	2.34	0.98	OK
	7	10/07/08	11.50	10.80	0.94	OK
	8	10/07/08	11.50	11.50	0.94	OK
S-Co	9	21/07/08	105.00	87.04	0.83	OK
	10	21/07/08	105.00	86.91	0.83	OK
S-Cs+N60-0°	13	09/07/08	3.78	4.38	1.16	OK
	14	09/07/08	3.78	4.45	1.18	OK
	15	10/07/08	4.05	4.08	1.01	OK
	16	10/07/08	4.05	4.08	1.01	OK
not irradiated	21	NIR		0.14		
	22	NIR		0.16		
	23	NIR		0.16		
	24	NIR		0.15		
	25	BGR		0.15		
	26	BGR		0.14		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.27</b>	1.27	1.29	1.26	2%
N60-45°	2	<b>1.22</b>	1.22	1.25	1.20	3%
N150-45°	2	<b>1.01</b>	1.01	1.03	1.00	2%
S-Cs	8	<b>0.98</b>	1.04	1.30	0.94	15%
S-Co	2	<b>0.83</b>	0.83	0.83	0.83	0%
S-Cs+N60-0°	4	<b>1.08</b>	1.09	1.18	1.01	9%
All	20	<b>1.01</b>	<b>1.07</b>	<b>1.30</b>	<b>0.83</b>	<b>15%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.07</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

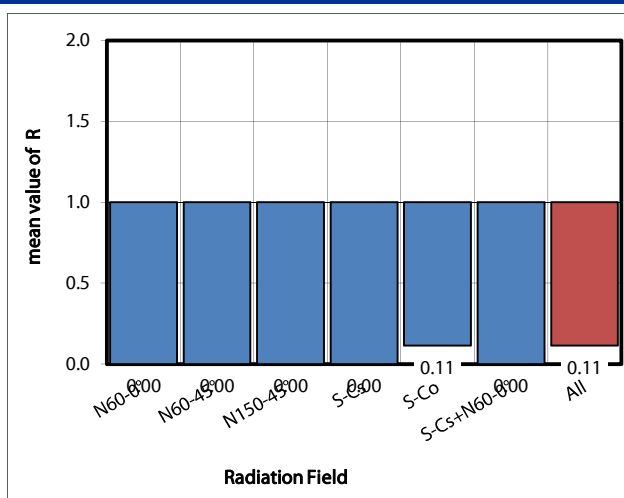
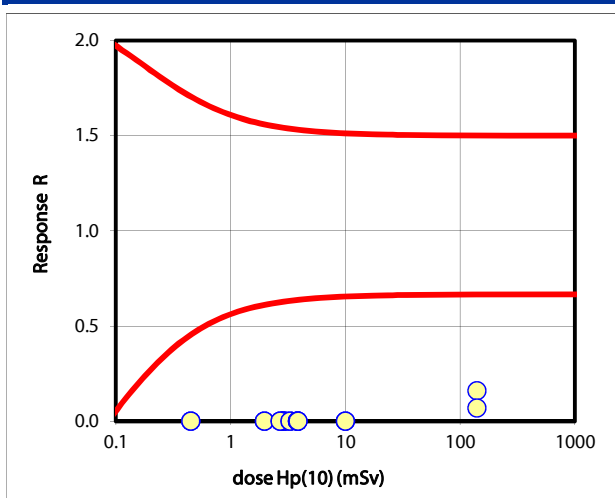
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 27 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	1.97	-	-	outlier
	12	31/07/08	1.97	-	-	outlier
N60-45°	17	01/08/08	2.84	-	-	outlier
	18	01/08/08	2.84	-	-	outlier
N150-45°	19	04/08/08	2.94	-	-	outlier
	20	04/08/08	2.94	-	-	outlier
S-Cs	1	25/07/08	0.45	-	-	outlier
	2	25/07/08	0.45	-	-	outlier
	3	29/07/08	2.70	-	-	outlier
	4	29/07/08	2.70	-	-	outlier
	5	29/07/08	3.30	-	-	outlier
	6	29/07/08	3.30	-	-	outlier
	7	29/07/08	10.00	-	-	outlier
	8	29/07/08	10.00	-	-	outlier
S-Co	9	04/08/08	140.00	22.36	0.16	outlier
	10	04/08/08	140.00	9.74	0.07	outlier
S-Cs+N60-0°	13	25/07/08	3.82	-	-	outlier
	14	25/07/08	3.82	-	-	outlier
	15	29/07/08	3.86	-	-	outlier
	16	29/07/08	3.86	-	-	outlier
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	0	-	-	-	-	-
N60-45°	0	-	-	-	-	-
N150-45°	0	-	-	-	-	-
S-Cs	0	-	-	-	-	-
S-Co	2	0.11	0.11	0.16	0.07	56%
S-Cs+N60-0°	0	-	-	-	-	-
All	2	0.11	0.11	0.16	0.07	6%

<b>Number of outliers:</b> 20	<b>Arithmetic mean value of all R:</b> 0.11
<b>Fraction of outliers:</b> 100%	<b>Median value of all R:</b> 0.11



Results: IC2008

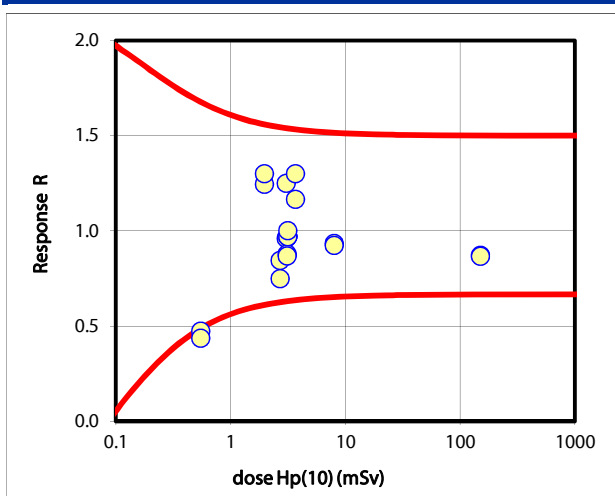
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 28 (TLD) for dose quantity Hp(0.07)

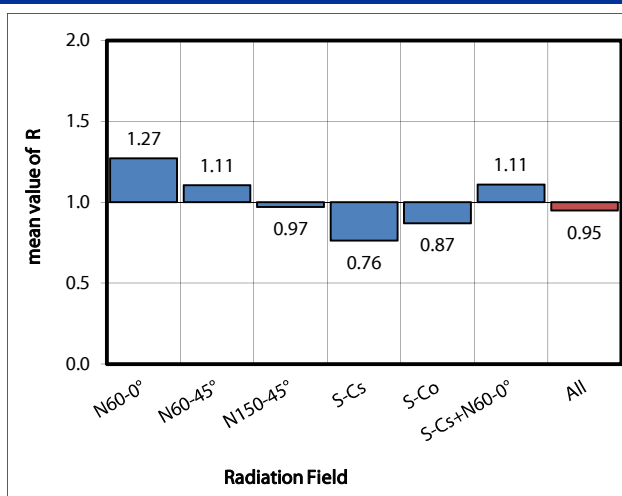
Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	1.97	2.45	1.24	OK
	12	30/07/08	1.97	2.56	1.30	OK
N60-45°	17	31/07/08	3.04	3.80	1.25	OK
	18	31/07/08	3.04	2.92	0.96	OK
N150-45°	19	04/08/08	3.14	3.04	0.97	OK
	20	04/08/08	3.14	3.05	0.97	OK
S-Cs	1	24/07/08	0.55	0.26	0.47	outlier
	2	24/07/08	0.55	0.24	0.44	outlier
	3	28/07/08	2.70	2.28	0.84	OK
	4	28/07/08	2.70	2.02	0.75	OK
	5	28/07/08	3.10	2.72	0.88	OK
	6	28/07/08	3.10	2.69	0.87	OK
	7	28/07/08	8.00	7.47	0.93	OK
	8	28/07/08	8.00	7.39	0.92	OK
S-Co	9	04/08/08	150.00	130.77	0.87	OK
	10	04/08/08	150.00	130.02	0.87	OK
S-Cs+N60-0°	13	24/07/08	3.67	4.77	1.30	OK
	14	24/07/08	3.67	4.28	1.17	OK
	15	28/07/08	3.15	3.05	0.97	OK
	16	28/07/08	3.15	3.15	1.00	OK
not irradiated	21	NIR		-0.26		
	22	NIR		-0.28		
	23	NIR		-0.29		
	24	NIR		-0.26		
	25	BGR		-0.29		
	26	BGR		-0.26		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.27	1.27	1.30	1.24	3%
N60-45°	2	1.11	1.11	1.25	0.96	19%
N150-45°	2	0.97	0.97	0.97	0.97	0%
S-Cs	8	0.86	0.76	0.93	0.44	26%
S-Co	2	0.87	0.87	0.87	0.87	0%
S-Cs+N60-0°	4	1.08	1.11	1.30	0.97	14%
All	20	0.95	0.95	1.30	0.44	23%

<b>Number of outliers:</b> 2	<b>Arithmetic mean value of all R:</b> 0.95
<b>Fraction of outliers:</b> 10%	<b>Median value of all R:</b> 0.95



Results: IC2008



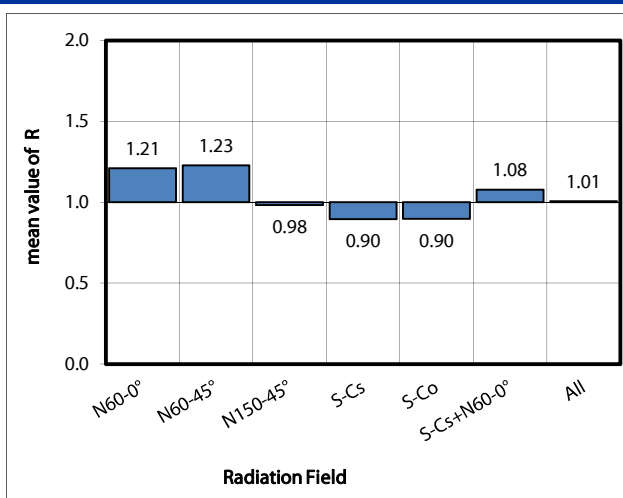
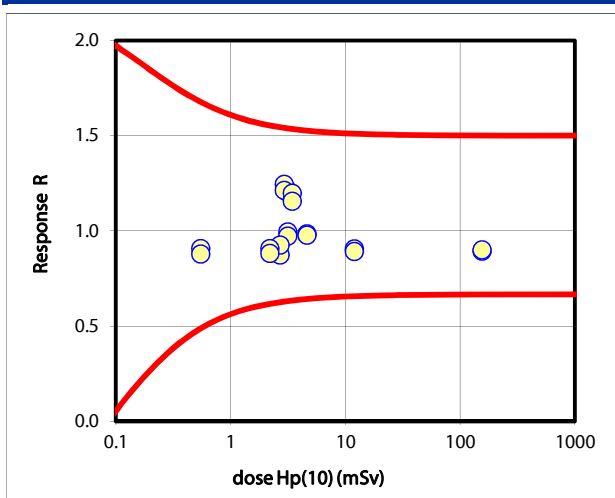
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 29 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	3.10	3.73	1.20	OK
	12	15/07/08	3.10	3.77	1.22	OK
N60-45°	17	17/07/08	2.94	3.66	1.24	OK
	18	17/07/08	2.94	3.56	1.21	OK
N150-45°	19	18/07/08	3.14	3.12	0.99	OK
	20	18/07/08	3.14	3.06	0.97	OK
S-Cs	1	09/07/08	0.55	0.50	0.91	OK
	2	09/07/08	0.55	0.48	0.88	OK
	3	11/07/08	2.70	2.36	0.87	OK
	4	11/07/08	2.70	2.50	0.92	OK
	5	11/07/08	2.20	1.99	0.91	OK
	6	11/07/08	2.20	1.94	0.88	OK
	7	11/07/08	12.00	10.85	0.90	OK
	8	11/07/08	12.00	10.69	0.89	OK
S-Co	9	21/07/08	155.00	138.39	0.89	OK
	10	21/07/08	155.00	139.58	0.90	OK
S-Cs+N60-0°	13	09/07/08	3.44	4.12	1.20	OK
	14	09/07/08	3.44	3.97	1.15	OK
	15	11/07/08	4.63	4.55	0.98	OK
	16	11/07/08	4.63	4.52	0.98	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.17		
	26	BGR		0.18		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.21</b>	1.21	1.22	1.20	1%
N60-45°	2	<b>1.23</b>	1.23	1.24	1.21	2%
N150-45°	2	<b>0.98</b>	0.98	0.99	0.97	2%
S-Cs	8	<b>0.90</b>	0.90	0.92	0.87	2%
S-Co	2	<b>0.90</b>	0.90	0.90	0.89	1%
S-Cs+N60-0°	4	<b>1.07</b>	1.08	1.20	0.98	11%
All	20	<b>0.95</b>	1.01	1.24	0.87	14%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.95</b>



Results: IC2008

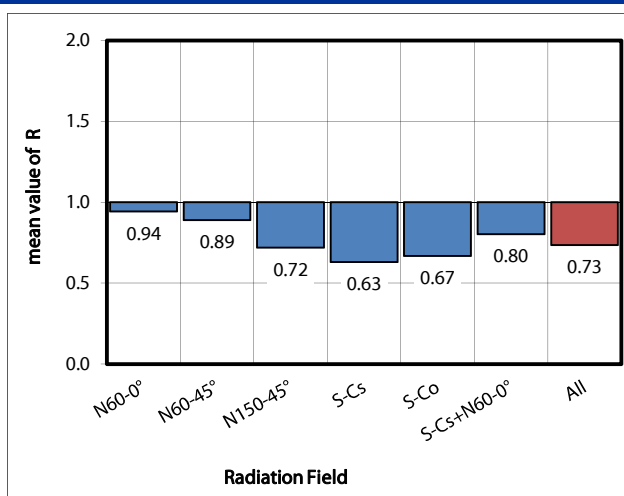
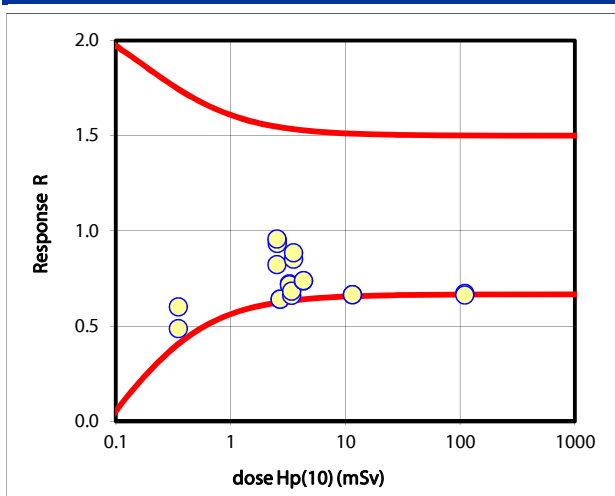
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 30 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	21	18/07/08	2.54	2.42	0.95	OK
	22	18/07/08	2.54	2.37	0.93	OK
N60-45°	17	17/07/08	2.53	2.42	0.96	OK
	18	17/07/08	2.53	2.08	0.82	OK
N150-45°	19	17/07/08	3.24	2.34	0.72	OK
	20	17/07/08	3.24	2.32	0.72	OK
S-Cs	1	09/07/08	0.35	0.17	0.49	OK
	2	09/07/08	0.35	0.21	0.60	OK
	3	10/07/08	2.70	1.73	0.64	OK
	4	10/07/08	2.70	1.73	0.64	OK
	5	10/07/08	3.40	2.25	0.66	OK
	6	10/07/08	3.40	2.32	0.68	OK
	7	10/07/08	11.50	7.64	0.66	OK
	8	10/07/08	11.50	7.64	0.66	OK
S-Co	9	21/07/08	110.00	73.82	0.67	OK
	10	21/07/08	110.00	72.97	0.66	outlier
S-Cs+N60-0°	13	09/07/08	3.54	3.01	0.85	OK
	14	09/07/08	3.54	3.13	0.88	OK
	15	10/07/08	4.32	3.18	0.74	OK
	16	10/07/08	4.32	3.19	0.74	OK
not irradiated	11	WIR		2.42		
	12	WIR		2.40		
	23	NIR		-		
	24	NIR		0.00		
	25	BGR		0.33		
	26	BGR		0.31		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.94</b>	0.94	0.95	0.93	1%
N60-45°	2	<b>0.89</b>	0.89	0.96	0.82	11%
N150-45°	2	<b>0.72</b>	0.72	0.72	0.72	1%
S-Cs	8	<b>0.65</b>	0.63	0.68	0.49	10%
S-Co	2	<b>0.67</b>	0.67	0.67	0.66	1%
S-Cs+N60-0°	4	<b>0.79</b>	0.80	0.88	0.74	10%
All	20	<b>0.70</b>	<b>0.73</b>	<b>0.96</b>	<b>0.49</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.73</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.70</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

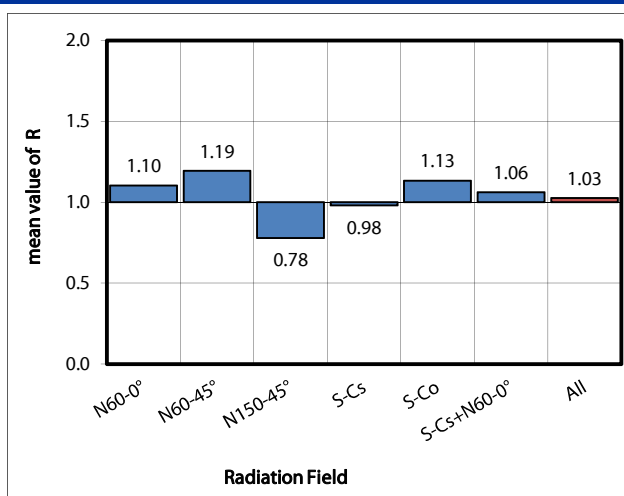
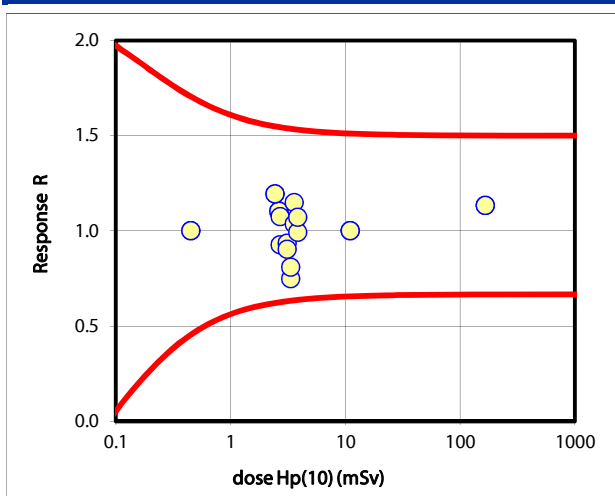


## Laboratory Nr. 31 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.63	2.90	1.10	OK
	12	14/07/08	2.63	2.90	1.10	OK
N60-45°	17	16/07/08	2.43	2.90	1.19	OK
	18	16/07/08	2.43	2.90	1.19	OK
N150-45°	19	18/07/08	3.34	2.50	0.75	OK
	20	18/07/08	3.34	2.70	0.81	OK
S-Cs	1	09/07/08	0.45	0.45	1.00	OK
	2	09/07/08	0.45	0.45	1.00	OK
	3	10/07/08	2.70	2.90	1.07	OK
	4	10/07/08	2.70	2.50	0.93	OK
	5	10/07/08	3.10	2.90	0.94	OK
	6	10/07/08	3.10	2.80	0.90	OK
	7	10/07/08	11.00	11.00	1.00	OK
	8	10/07/08	11.00	11.00	1.00	OK
S-Co	9	21/07/08	165.00	187.00	1.13	OK
	10	21/07/08	165.00	187.00	1.13	OK
S-Cs+N60-0°	13	09/07/08	3.57	3.70	1.04	OK
	14	09/07/08	3.57	4.10	1.15	OK
	15	10/07/08	3.83	3.80	0.99	OK
	16	10/07/08	3.83	4.10	1.07	OK
not irradiated	21	NIR		0.05		
	22	NIR		0.05		
	23	NIR		0.05		
	24	NIR		0.05		
	25	BGR		0.05		
	26	BGR		0.05		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.10	1.10	1.10	1.10	0%
N60-45°	2	1.19	1.19	1.19	1.19	0%
N150-45°	2	0.78	0.78	0.81	0.75	5%
S-Cs	8	1.00	0.98	1.07	0.90	6%
S-Co	2	1.13	1.13	1.13	1.13	0%
S-Cs+N60-0°	4	1.05	1.06	1.15	0.99	6%
All	20	1.02	1.03	1.19	0.75	12%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.03</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.02</b>



Results: IC2008

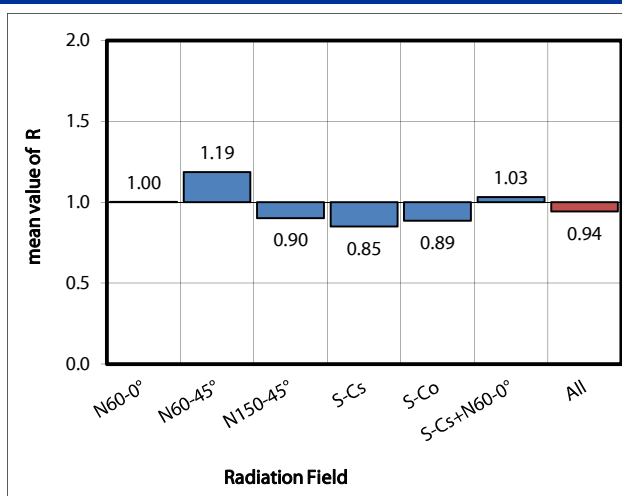
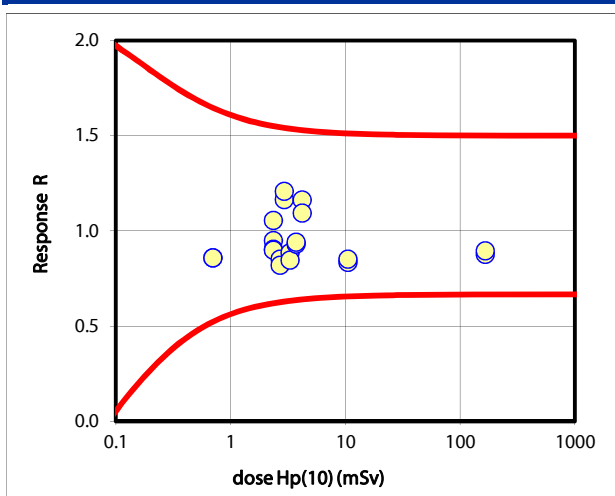
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 32 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.35	2.48	1.06	OK
	12	30/07/08	2.35	2.23	0.95	OK
N60-45°	17	31/07/08	2.94	3.42	1.16	OK
	18	31/07/08	2.94	3.55	1.21	OK
N150-45°	19	01/08/08	2.36	2.13	0.90	OK
	20	01/08/08	2.36	2.12	0.90	OK
S-Cs	1	23/07/08	0.70	0.60	0.86	OK
	2	23/07/08	0.70	0.60	0.86	OK
	3	26/07/08	2.70	2.30	0.85	OK
	4	26/07/08	2.70	2.21	0.82	OK
	5	26/07/08	3.30	2.92	0.88	OK
	6	26/07/08	3.30	2.79	0.85	OK
	7	26/07/08	10.50	8.76	0.83	OK
	8	26/07/08	10.50	8.93	0.85	OK
S-Co	9	04/08/08	165.00	144.56	0.88	OK
	10	04/08/08	165.00	147.66	0.89	OK
S-Cs+N60-0°	13	23/07/08	4.20	4.88	1.16	OK
	14	23/07/08	4.20	4.59	1.09	OK
	15	26/07/08	3.73	3.47	0.93	OK
	16	26/07/08	3.73	3.51	0.94	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.00</b>	1.00	1.06	0.95	8%
N60-45°	2	<b>1.19</b>	1.19	1.21	1.16	3%
N150-45°	2	<b>0.90</b>	0.90	0.90	0.90	0%
S-Cs	8	<b>0.85</b>	0.85	0.88	0.82	2%
S-Co	2	<b>0.89</b>	0.89	0.89	0.88	2%
S-Cs+N60-0°	4	<b>1.02</b>	1.03	1.16	0.93	11%
All	20	<b>0.90</b>	<b>0.94</b>	<b>1.21</b>	<b>0.82</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.94</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.90</b>



Results: IC2008

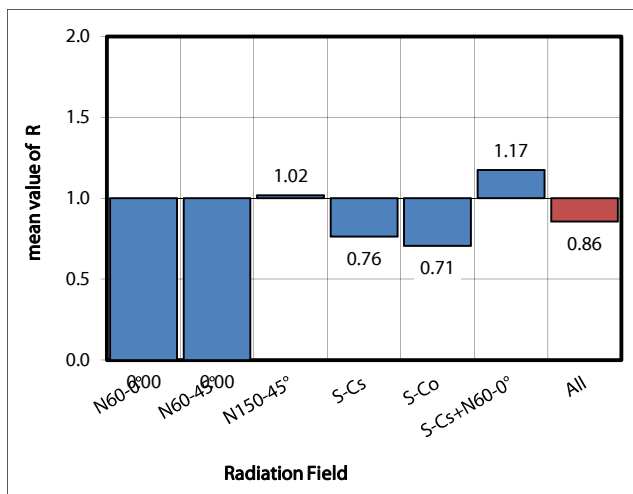
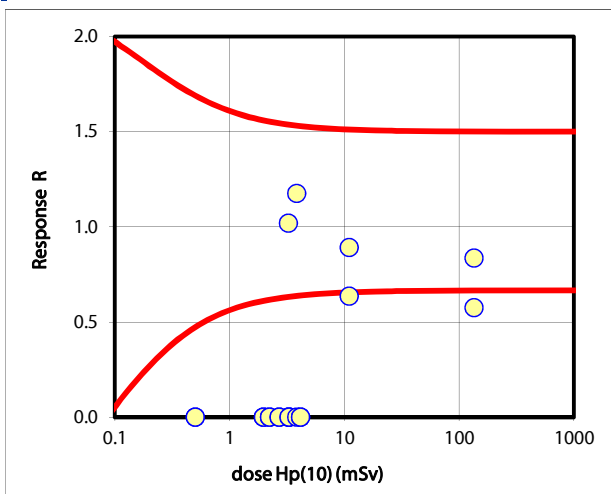
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 33 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	1.97	-	-	outlier
	12	31/07/08	1.97	-	-	outlier
N60-45°	17	01/08/08	2.23	-	-	outlier
	18	01/08/08	2.23	-	-	outlier
N150-45°	19	04/08/08	3.24	-	-	outlier
	20	04/08/08	3.24	3.30	1.02	OK
S-Cs	1	24/07/08	0.50	-	-	outlier
	2	24/07/08	0.50	-	-	outlier
	3	29/07/08	2.70	-	-	outlier
	4	29/07/08	2.70	-	-	outlier
	5	29/07/08	3.30	-	-	outlier
	6	29/07/08	3.30	-	-	outlier
	7	29/07/08	11.00	7.00	0.64	outlier
	8	29/07/08	11.00	9.80	0.89	OK
S-Co	9	04/08/08	135.00	112.90	0.84	OK
	10	04/08/08	135.00	77.70	0.58	outlier
S-Cs+N60-0°	13	24/07/08	3.83	-	-	outlier
	14	24/07/08	3.83	4.50	1.17	OK
	15	29/07/08	4.16	-	-	outlier
	16	29/07/08	4.16	-	-	outlier
not irradiated	21	NIR	-	-	-	-
	22	NIR	-	-	-	-
	23	NIR	-	-	-	-
	24	NIR	-	-	-	-
	25	BGR	-	-	-	-
	26	BGR	-	-	-	-

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	0	-	-	-	-	-
N60-45°	0	-	-	-	-	-
N150-45°	1	1.02	1.02	1.02	1.02	-
S-Cs	2	0.76	0.76	0.89	0.64	24%
S-Co	2	0.71	0.71	0.84	0.58	26%
S-Cs+N60-0°	1	1.17	1.17	1.17	1.17	-
All	6	0.86	0.86	1.17	0.58	23%

<b>Number of outliers:</b> 16	<b>Arithmetic mean value of all R:</b> 0.86
<b>Fraction of outliers:</b> 80%	<b>Median value of all R:</b> 0.86



Results: IC2008

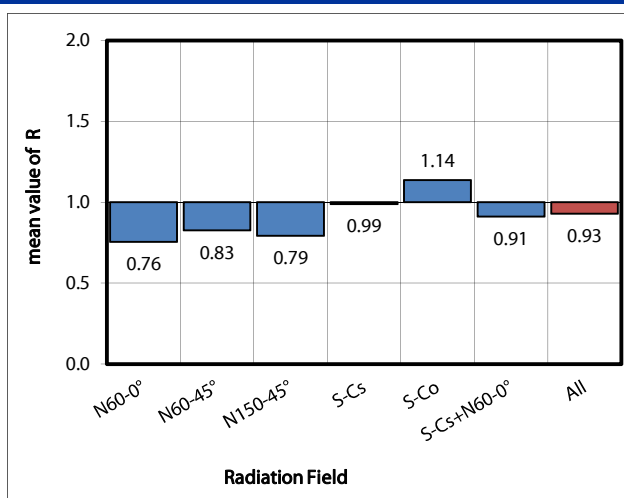
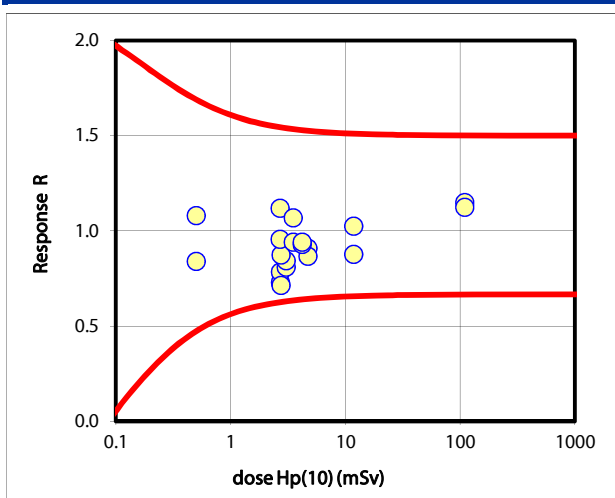
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 34 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.72	1.98	0.73	OK
	12	15/07/08	2.72	2.13	0.78	OK
N60-45°	17	17/07/08	3.04	2.46	0.81	OK
	18	17/07/08	3.04	2.56	0.84	OK
N150-45°	19	18/07/08	2.75	2.40	0.87	OK
	20	18/07/08	2.75	1.96	0.71	OK
S-Cs	1	09/07/08	0.50	0.54	1.08	OK
	2	09/07/08	0.50	0.42	0.84	OK
	3	12/07/08	2.70	2.58	0.96	OK
	4	12/07/08	2.70	3.02	1.12	OK
	5	12/07/08	3.50	3.74	1.07	OK
	6	12/07/08	3.50	3.29	0.94	OK
	7	12/07/08	11.80	12.09	1.02	OK
	8	12/07/08	11.80	10.35	0.88	OK
S-Co	9	21/07/08	110.00	126.34	1.15	OK
	10	21/07/08	110.00	123.58	1.12	OK
S-Cs+N60-0°	15	12/07/08	4.72	4.29	0.91	OK
	16	12/07/08	4.72	4.09	0.87	OK
	21	14/07/08	4.21	3.91	0.93	OK
	22	14/07/08	4.21	3.96	0.94	OK
not irradiated	13	WIR		2.29		
	14	WIR		1.95		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.03		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.76</b>	0.76	0.78	0.73	5%
N60-45°	2	<b>0.83</b>	0.83	0.84	0.81	3%
N150-45°	2	<b>0.79</b>	0.79	0.87	0.71	14%
S-Cs	8	<b>0.99</b>	0.99	1.12	0.84	10%
S-Co	2	<b>1.14</b>	1.14	1.15	1.12	2%
S-Cs+N60-0°	4	<b>0.92</b>	0.91	0.94	0.87	4%
All	20	<b>0.92</b>	<b>0.93</b>	<b>1.15</b>	<b>0.71</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.93</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.92</b>



Results: IC2008

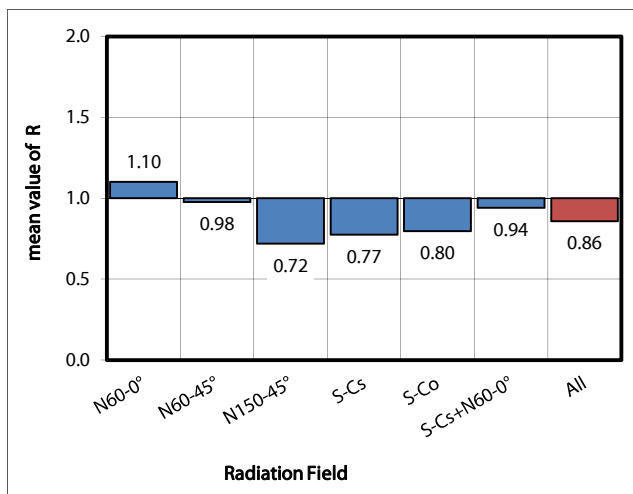
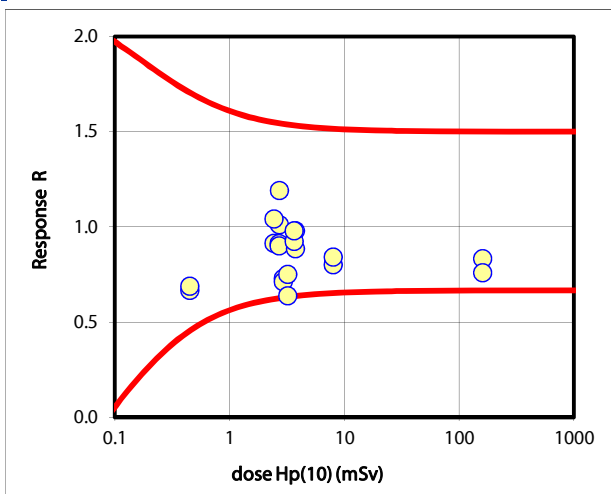
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 35 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	2.72	2.75	1.01	OK
	12	29/07/08	2.72	3.24	1.19	OK
N60-45°	17	31/07/08	2.43	2.53	1.04	OK
	18	31/07/08	2.43	2.22	0.91	OK
N150-45°	19	01/08/08	2.94	2.14	0.73	OK
	20	01/08/08	2.94	2.09	0.71	OK
S-Cs	1	23/07/08	0.45	0.30	0.67	OK
	2	23/07/08	0.45	0.31	0.69	OK
	3	25/07/08	2.70	2.46	0.91	OK
	4	25/07/08	2.70	2.43	0.90	OK
	5	25/07/08	3.20	2.04	0.64	OK
	6	25/07/08	3.20	2.40	0.75	OK
	7	25/07/08	8.00	6.41	0.80	OK
	8	25/07/08	8.00	6.73	0.84	OK
S-Co	9	04/08/08	160.00	133.27	0.83	OK
	10	04/08/08	160.00	121.44	0.76	OK
S-Cs+N60-0°	13	23/07/08	3.74	3.31	0.89	OK
	14	23/07/08	3.74	3.66	0.98	OK
	15	25/07/08	3.65	3.37	0.92	OK
	16	25/07/08	3.65	3.57	0.98	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.10</b>	1.10	1.19	1.01	12%
N60-45°	2	<b>0.98</b>	0.98	1.04	0.91	9%
N150-45°	2	<b>0.72</b>	0.72	0.73	0.71	2%
S-Cs	8	<b>0.78</b>	0.77	0.91	0.64	14%
S-Co	2	<b>0.80</b>	0.80	0.83	0.76	7%
S-Cs+N60-0°	4	<b>0.95</b>	0.94	0.98	0.89	5%
All	20	<b>0.86</b>	<b>0.86</b>	<b>1.19</b>	<b>0.64</b>	<b>14%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.86</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.86</b>



Results: IC2008

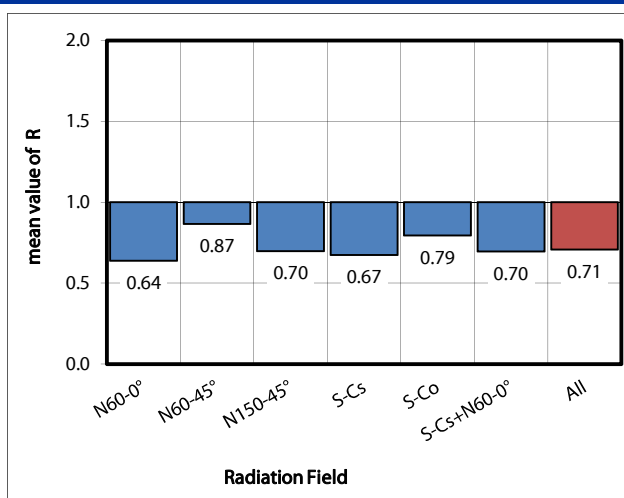
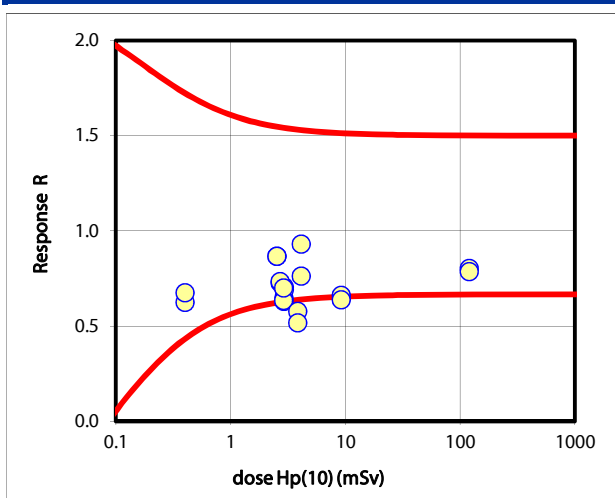
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 36 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.91	1.83	0.63	OK
	12	14/07/08	2.91	1.88	0.65	OK
N60-45°	17	17/07/08	2.53	2.19	0.87	OK
	18	17/07/08	2.53	2.19	0.87	OK
N150-45°	19	18/07/08	2.94	2.07	0.70	OK
	20	18/07/08	2.94	2.03	0.69	OK
S-Cs	1	09/07/08	0.40	0.25	0.63	OK
	2	09/07/08	0.40	0.27	0.68	OK
	3	11/07/08	2.70	1.96	0.73	OK
	4	11/07/08	2.70	1.98	0.73	OK
	5	11/07/08	2.90	1.84	0.63	OK
	6	11/07/08	2.90	2.03	0.70	OK
	7	11/07/08	9.20	6.08	0.66	OK
	8	11/07/08	9.20	5.86	0.64	outlier
S-Co	9	21/07/08	120.00	96.28	0.80	OK
	10	21/07/08	120.00	94.28	0.79	OK
S-Cs+N60-0°	13	09/07/08	4.11	3.13	0.76	OK
	14	09/07/08	4.11	3.82	0.93	OK
	15	11/07/08	3.83	2.21	0.58	outlier
	16	11/07/08	3.83	1.98	0.52	outlier
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.64</b>	0.64	0.65	0.63	2%
N60-45°	2	<b>0.87</b>	0.87	0.87	0.87	0%
N150-45°	2	<b>0.70</b>	0.70	0.70	0.69	1%
S-Cs	8	<b>0.67</b>	0.67	0.73	0.63	6%
S-Co	2	<b>0.79</b>	0.79	0.80	0.79	1%
S-Cs+N60-0°	4	<b>0.67</b>	0.70	0.93	0.52	27%
All	20	<b>0.70</b>	<b>0.71</b>	<b>0.93</b>	<b>0.52</b>	<b>10%</b>

<b>Number of outliers:</b>	<b>3</b>	<b>Arithmetic mean value of all R:</b>	<b>0.71</b>
<b>Fraction of outliers:</b>	<b>15%</b>	<b>Median value of all R:</b>	<b>0.70</b>



Results: IC2008

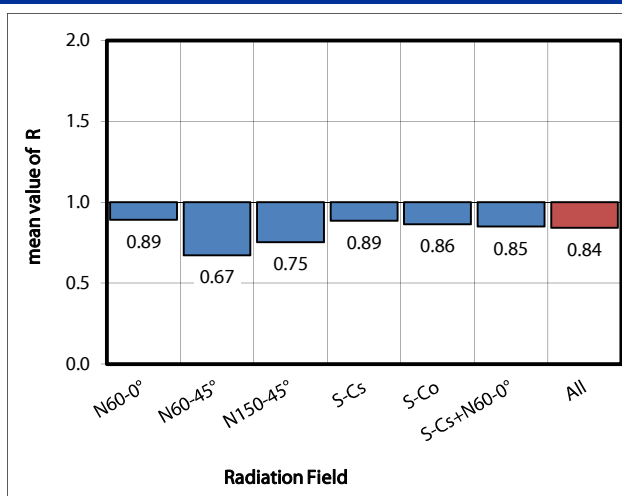
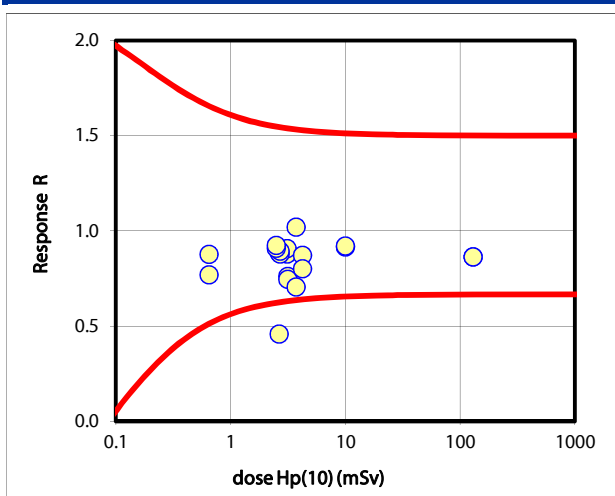
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 37 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.10	2.72	0.88	OK
	12	30/07/08	3.10	2.81	0.91	OK
N60-45°	17	31/07/08	2.64	2.34	0.89	OK
	18	31/07/08	2.64	1.21	0.46	outlier
N150-45°	19	04/08/08	3.14	2.39	0.76	OK
	20	04/08/08	3.14	2.34	0.75	OK
S-Cs	1	24/07/08	0.65	0.57	0.88	OK
	2	24/07/08	0.65	0.50	0.77	OK
	3	28/07/08	2.70	2.37	0.88	OK
	4	28/07/08	2.70	2.41	0.89	OK
	5	28/07/08	2.50	2.27	0.91	OK
	6	28/07/08	2.50	2.31	0.92	OK
	7	28/07/08	10.00	9.15	0.92	OK
	8	28/07/08	10.00	9.20	0.92	OK
S-Co	9	04/08/08	130.00	112.13	0.86	OK
	10	04/08/08	130.00	112.24	0.86	OK
S-Cs+N60-0°	13	24/07/08	3.73	2.63	0.71	OK
	14	24/07/08	3.73	3.80	1.02	OK
	15	28/07/08	4.22	3.68	0.87	OK
	16	28/07/08	4.22	3.38	0.80	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.89</b>	0.89	0.91	0.88	2%
N60-45°	2	<b>0.67</b>	0.67	0.89	0.46	45%
N150-45°	2	<b>0.75</b>	0.75	0.76	0.75	1%
S-Cs	8	<b>0.90</b>	0.89	0.92	0.77	6%
S-Co	2	<b>0.86</b>	0.86	0.86	0.86	0%
S-Cs+N60-0°	4	<b>0.84</b>	0.85	1.02	0.71	16%
All	20	<b>0.88</b>	<b>0.84</b>	<b>1.02</b>	<b>0.46</b>	<b>12%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>0.84</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>0.88</b>



Results: IC2008

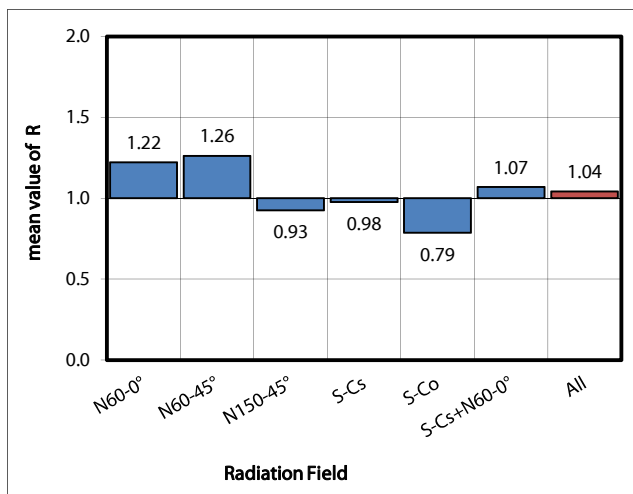
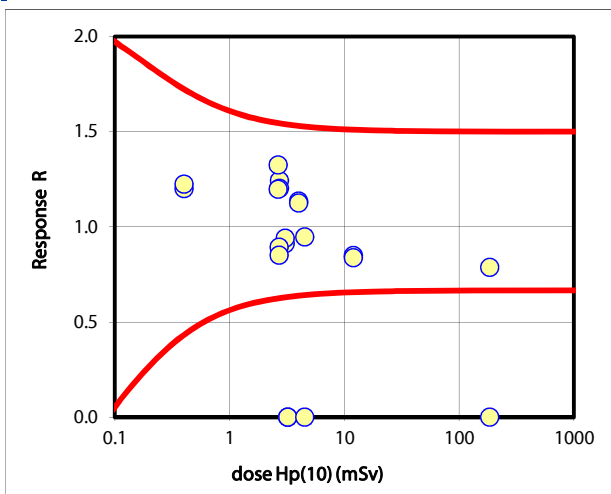
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 38 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.72	3.38	1.24	OK
	12	15/07/08	2.72	3.27	1.20	OK
N60-45°	17	17/07/08	2.64	3.50	1.33	OK
	18	17/07/08	2.64	3.16	1.20	OK
N150-45°	19	18/07/08	3.04	2.77	0.91	OK
	20	18/07/08	3.04	2.86	0.94	OK
S-Cs	1	09/07/08	0.40	0.48	1.20	OK
	2	09/07/08	0.40	0.49	1.23	OK
	3	11/07/08	2.70	2.41	0.89	OK
	4	11/07/08	2.70	2.30	0.85	OK
	5	11/07/08	3.20	-	-	outlier
	6	11/07/08	3.20	-	-	outlier
	7	11/07/08	12.00	10.19	0.85	OK
	8	11/07/08	12.00	10.05	0.84	OK
S-Co	9	21/07/08	185.00	-	-	outlier
	10	21/07/08	185.00	145.63	0.79	OK
S-Cs+N60-0°	13	09/07/08	4.00	4.54	1.14	OK
	14	09/07/08	4.00	4.50	1.13	OK
	15	11/07/08	4.52	4.28	0.95	OK
	16	11/07/08	4.52	-	-	outlier
not irradiated	21	NIR	-	-	-	-
	22	NIR	-	0.16	-	-
	23	NIR	-	-	-	-
	24	NIR	-	-	-	-
	25	BGR	-	-	-	-
	26	BGR	-	-	-	-

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.22	1.22	1.24	1.20	2%
N60-45°	2	1.26	1.26	1.33	1.20	7%
N150-45°	2	0.93	0.93	0.94	0.91	2%
S-Cs	6	0.87	0.98	1.23	0.84	19%
S-Co	1	0.79	0.79	0.79	0.79	-
S-Cs+N60-0°	3	1.13	1.07	1.14	0.95	10%
All	16	1.04	1.04	1.33	0.79	18%

<b>Number of outliers:</b> 4	<b>Arithmetic mean value of all R:</b> 1.04
<b>Fraction of outliers:</b> 20%	<b>Median value of all R:</b> 1.04



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

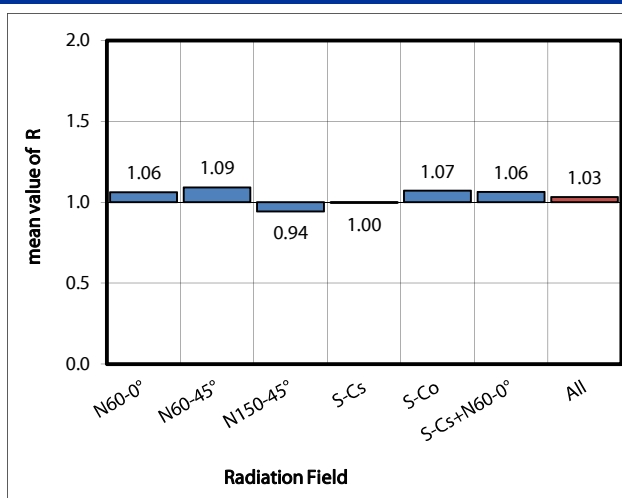
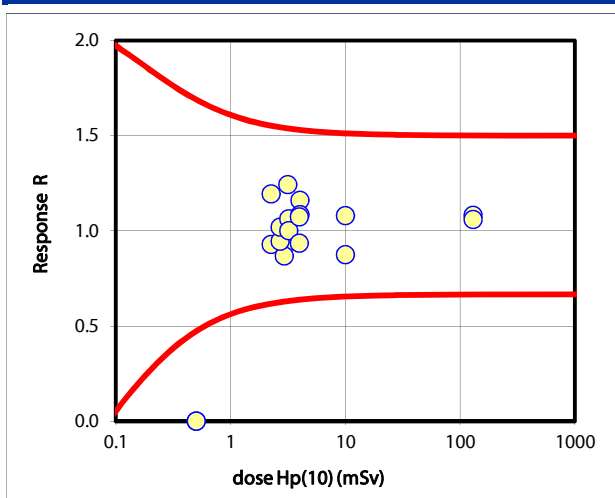


## Laboratory Nr. 39 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.26	2.70	1.19	OK
	12	30/07/08	2.26	2.10	0.93	OK
N60-45°	17	31/07/08	3.14	3.90	1.24	OK
	18	31/07/08	3.14	2.95	0.94	OK
N150-45°	20	04/08/08	2.94	2.55	0.87	OK
	21	04/08/08	2.94	3.00	1.02	OK
S-Cs	1	24/07/08	0.50	-	-	outlier
	2	24/07/08	0.50	-	-	outlier
	3	28/07/08	2.70	2.55	0.94	OK
	4	28/07/08	2.70	2.75	1.02	OK
	5	28/07/08	3.20	3.40	1.06	OK
	6	28/07/08	3.20	3.20	1.00	OK
	7	28/07/08	10.00	10.80	1.08	OK
	8	28/07/08	10.00	8.75	0.88	OK
S-Co	9	04/08/08	130.00	140.55	1.08	OK
	10	04/08/08	130.00	137.80	1.06	OK
S-Cs+N60-0°	13	24/07/08	4.01	4.65	1.16	OK
	14	24/07/08	4.01	4.35	1.08	OK
	15	28/07/08	3.96	3.70	0.93	OK
	16	28/07/08	3.96	4.25	1.07	OK
not irradiated	19	WIR		2.80		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.06	1.06	1.19	0.93	18%
N60-45°	2	1.09	1.09	1.24	0.94	20%
N150-45°	2	0.94	0.94	1.02	0.87	11%
S-Cs	6	1.01	1.00	1.08	0.88	8%
S-Co	2	1.07	1.07	1.08	1.06	1%
S-Cs+N60-0°	4	1.08	1.06	1.16	0.93	9%
All	18	1.04	1.03	1.24	0.87	10%

<b>Number of outliers:</b>	<b>2</b>	<b>Arithmetic mean value of all R:</b>	<b>1.03</b>
<b>Fraction of outliers:</b>	<b>10%</b>	<b>Median value of all R:</b>	<b>1.04</b>



Results: IC2008

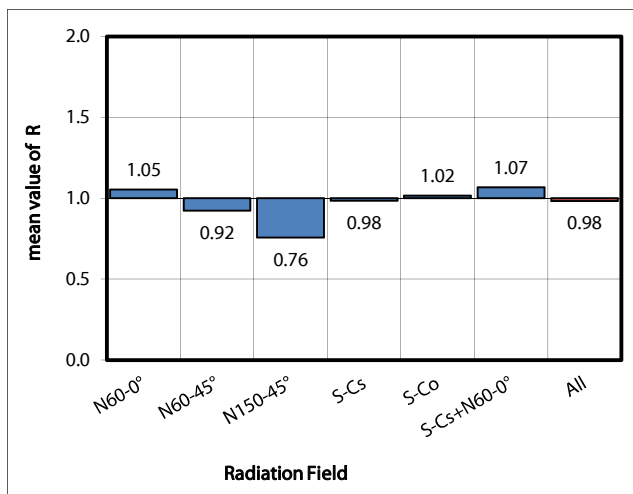
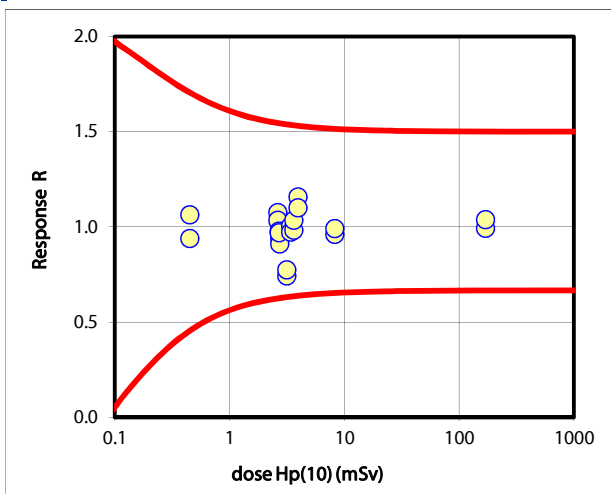
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 41 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.63	2.83	1.07	OK
	12	14/07/08	2.63	2.72	1.03	OK
N60-45°	17	16/07/08	2.74	2.57	0.94	OK
	18	16/07/08	2.74	2.50	0.91	OK
N150-45°	19	18/07/08	3.14	2.33	0.74	OK
	20	18/07/08	3.14	2.43	0.77	OK
S-Cs	1	09/07/08	0.45	0.42	0.94	OK
	2	09/07/08	0.45	0.48	1.06	OK
	3	11/07/08	2.70	2.64	0.98	OK
	4	11/07/08	2.70	2.62	0.97	OK
	5	11/07/08	3.40	3.41	1.00	OK
	6	11/07/08	3.40	3.31	0.97	OK
	7	11/07/08	8.25	7.93	0.96	OK
	8	11/07/08	8.25	8.18	0.99	OK
S-Co	9	21/07/08	170.00	168.70	0.99	OK
	10	21/07/08	170.00	176.50	1.04	OK
S-Cs+N60-0°	13	09/07/08	3.63	3.57	0.98	OK
	14	09/07/08	3.63	3.75	1.03	OK
	15	11/07/08	3.93	4.55	1.16	OK
	16	11/07/08	3.93	4.32	1.10	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.05	1.05	1.07	1.03	3%
N60-45°	2	0.92	0.92	0.94	0.91	2%
N150-45°	2	0.76	0.76	0.77	0.74	3%
S-Cs	8	0.97	0.98	1.06	0.94	4%
S-Co	2	1.02	1.02	1.04	0.99	3%
S-Cs+N60-0°	4	1.07	1.07	1.16	0.98	7%
All	20	0.99	0.98	1.16	0.74	10%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.98</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.99</b>



Results: IC2008

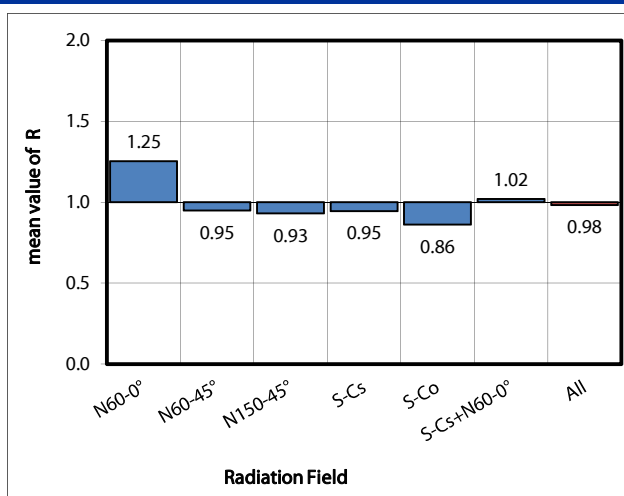
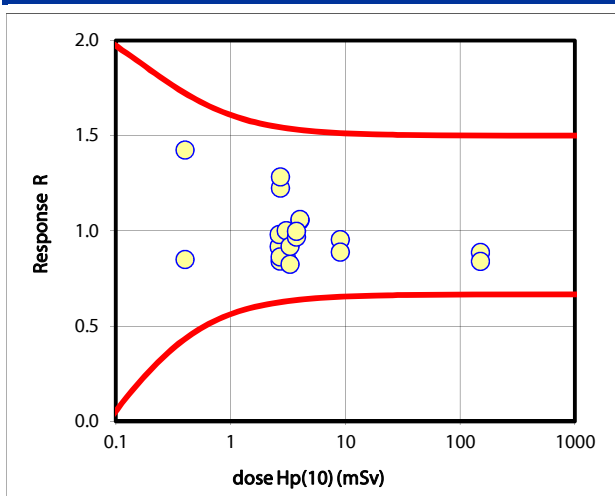
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 42 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.72	3.33	1.22	OK
	12	30/07/08	2.72	3.49	1.28	OK
N60-45°	17	31/07/08	2.64	2.42	0.92	OK
	18	31/07/08	2.64	2.59	0.98	OK
N150-45°	19	01/08/08	3.04	2.62	0.86	OK
	20	01/08/08	3.04	3.04	1.00	OK
S-Cs	1	23/07/08	0.40	0.57	1.43	OK
	2	23/07/08	0.40	0.34	0.85	OK
	3	28/07/08	2.70	2.27	0.84	OK
	4	28/07/08	2.70	2.33	0.86	OK
	5	28/07/08	3.30	2.72	0.82	OK
	6	28/07/08	3.30	3.03	0.92	OK
	7	28/07/08	9.00	8.59	0.95	OK
	8	28/07/08	9.00	7.99	0.89	OK
S-Co	9	04/08/08	150.00	132.90	0.89	OK
	10	04/08/08	150.00	125.90	0.84	OK
S-Cs+N60-0°	13	23/07/08	4.02	4.24	1.05	OK
	14	23/07/08	4.02	4.26	1.06	OK
	15	28/07/08	3.74	3.62	0.97	OK
	16	28/07/08	3.74	3.73	1.00	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.03		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.25</b>	1.25	1.28	1.22	3%
N60-45°	2	<b>0.95</b>	0.95	0.98	0.92	5%
N150-45°	2	<b>0.93</b>	0.93	1.00	0.86	10%
S-Cs	8	<b>0.88</b>	0.95	1.43	0.82	21%
S-Co	2	<b>0.86</b>	0.86	0.89	0.84	4%
S-Cs+N60-0°	4	<b>1.03</b>	1.02	1.06	0.97	4%
All	20	<b>0.94</b>	<b>0.98</b>	<b>1.43</b>	<b>0.82</b>	<b>16%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.98</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

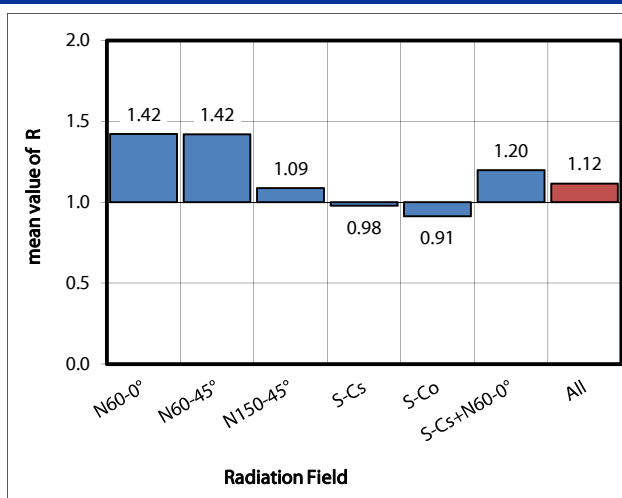
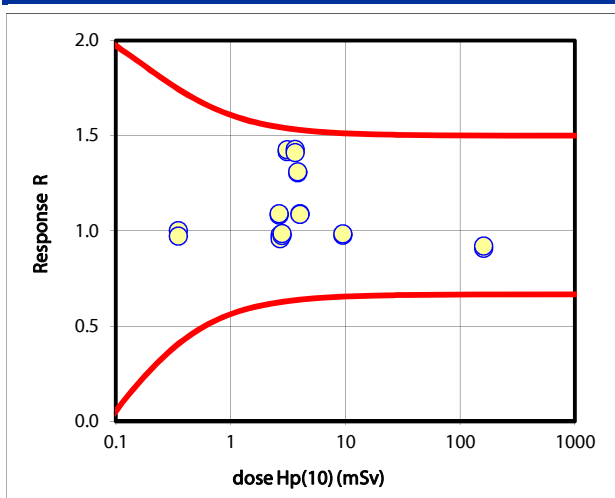
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 43 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	3.10	4.39	1.42	OK
	12	31/07/08	3.10	4.42	1.43	OK
N60-45°	17	01/08/08	3.65	5.21	1.43	OK
	18	01/08/08	3.65	5.15	1.41	OK
N150-45°	19	04/08/08	2.65	2.87	1.08	OK
	20	04/08/08	2.65	2.89	1.09	OK
S-Cs	1	24/07/08	0.35	0.35	1.00	OK
	2	24/07/08	0.35	0.34	0.97	OK
	3	29/07/08	2.70	2.64	0.98	OK
	4	29/07/08	2.70	2.59	0.96	OK
	5	29/07/08	2.80	2.73	0.98	OK
	6	29/07/08	2.80	2.76	0.99	OK
	7	29/07/08	9.50	9.29	0.98	OK
	8	29/07/08	9.50	9.34	0.98	OK
S-Co	9	04/08/08	160.00	145.28	0.91	OK
	10	04/08/08	160.00	147.10	0.92	OK
S-Cs+N60-0°	13	24/07/08	3.83	5.00	1.31	OK
	14	24/07/08	3.83	5.02	1.31	OK
	15	29/07/08	4.03	4.39	1.09	OK
	16	29/07/08	4.03	4.38	1.09	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.15		
	26	BGR		0.14		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.42	1.42	1.43	1.42	0%
N60-45°	2	1.42	1.42	1.43	1.41	1%
N150-45°	2	1.09	1.09	1.09	1.08	0%
S-Cs	8	0.98	0.98	1.00	0.96	1%
S-Co	2	0.91	0.91	0.92	0.91	1%
S-Cs+N60-0°	4	1.20	1.20	1.31	1.09	11%
All	20	1.04	1.12	1.43	0.91	19%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.12</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.04</b>



Results: IC2008

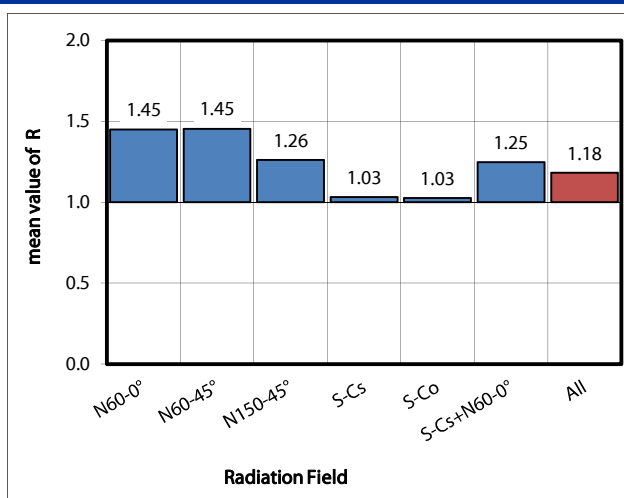
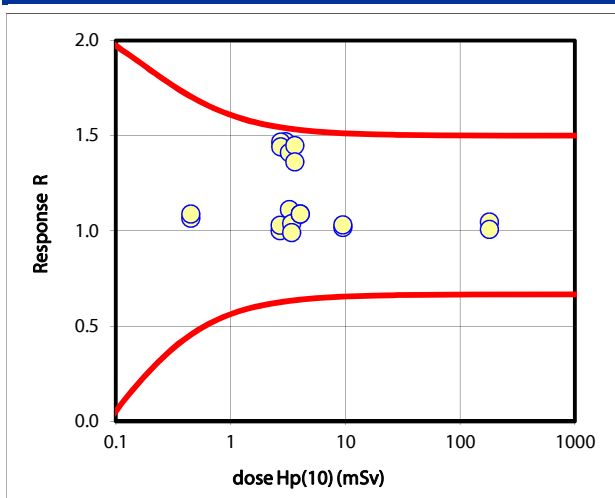
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 44 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	3.01	4.42	1.47	OK
	12	14/07/08	3.01	4.31	1.43	OK
N60-45°	17	17/07/08	2.74	4.02	1.47	OK
	18	17/07/08	2.74	3.95	1.44	OK
N150-45°	19	18/07/08	3.24	4.57	1.41	OK
	20	18/07/08	3.24	3.60	1.11	OK
S-Cs	1	09/07/08	0.45	0.48	1.07	OK
	2	09/07/08	0.45	0.49	1.09	OK
	3	10/07/08	2.70	2.70	1.00	OK
	4	10/07/08	2.70	2.78	1.03	OK
	5	10/07/08	3.40	3.53	1.04	OK
	6	10/07/08	3.40	3.37	0.99	OK
	7	10/07/08	9.50	9.67	1.02	OK
	8	10/07/08	9.50	9.79	1.03	OK
S-Co	9	21/07/08	180.00	188.20	1.05	OK
	10	21/07/08	180.00	181.20	1.01	OK
S-Cs+N60-0°	13	09/07/08	3.62	5.24	1.45	OK
	14	09/07/08	3.62	4.93	1.36	OK
	15	10/07/08	4.05	4.41	1.09	OK
	16	10/07/08	4.05	4.41	1.09	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.45	1.45	1.47	1.43	2%
N60-45°	2	1.45	1.45	1.47	1.44	1%
N150-45°	2	1.26	1.26	1.41	1.11	17%
S-Cs	8	1.03	1.03	1.09	0.99	3%
S-Co	2	1.03	1.03	1.05	1.01	3%
S-Cs+N60-0°	4	1.23	1.25	1.45	1.09	15%
All	20	1.09	1.18	1.47	0.99	19%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.18</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.09</b>



Results: IC2008

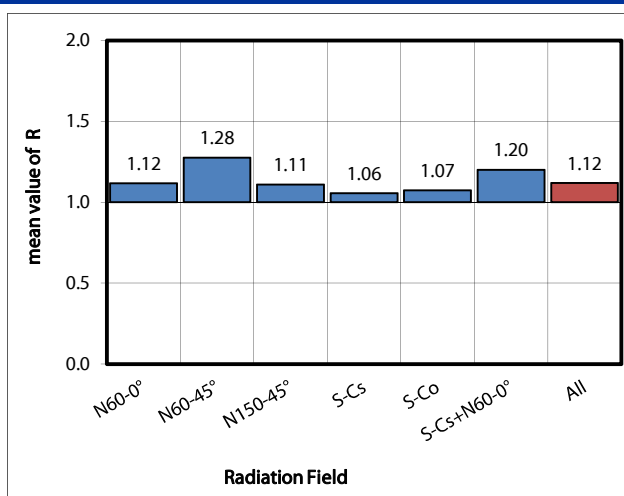
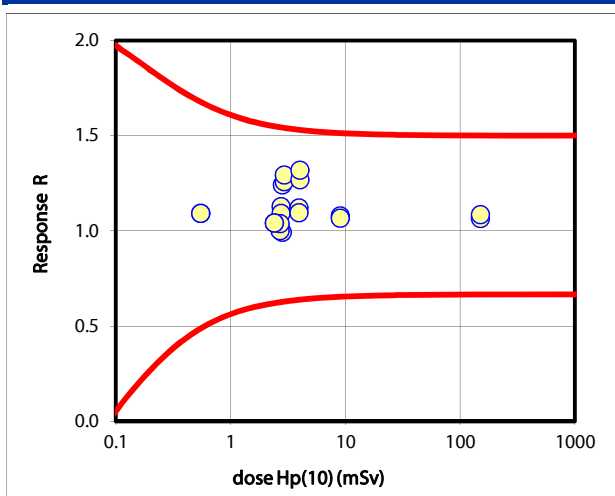
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 45 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.82	2.80	0.99	OK
	12	30/07/08	2.82	3.50	1.24	OK
N60-45°	17	31/07/08	2.94	3.70	1.26	OK
	18	31/07/08	2.94	3.80	1.29	OK
N150-45°	19	01/08/08	2.75	3.10	1.13	OK
	20	01/08/08	2.75	3.00	1.09	OK
S-Cs	1	23/07/08	0.55	0.60	1.09	OK
	2	23/07/08	0.55	0.60	1.09	OK
	3	25/07/08	2.70	2.70	1.00	OK
	4	25/07/08	2.70	2.80	1.04	OK
	5	25/07/08	2.40	2.50	1.04	OK
	6	25/07/08	2.40	2.50	1.04	OK
	7	25/07/08	9.00	9.70	1.08	OK
	8	25/07/08	9.00	9.60	1.07	OK
S-Co	9	04/08/08	150.00	159.70	1.06	OK
	10	04/08/08	150.00	162.60	1.08	OK
S-Cs+N60-0°	13	23/07/08	4.02	5.10	1.27	OK
	14	23/07/08	4.02	5.30	1.32	OK
	15	25/07/08	3.93	4.40	1.12	OK
	16	25/07/08	3.93	4.30	1.09	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.12	1.12	1.24	0.99	16%
N60-45°	2	1.28	1.28	1.29	1.26	2%
N150-45°	2	1.11	1.11	1.13	1.09	2%
S-Cs	8	1.05	1.06	1.09	1.00	3%
S-Co	2	1.07	1.07	1.08	1.06	1%
S-Cs+N60-0°	4	1.19	1.20	1.32	1.09	9%
All	20	1.09	1.12	1.32	0.99	10%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.12</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.09</b>



Results: IC2008

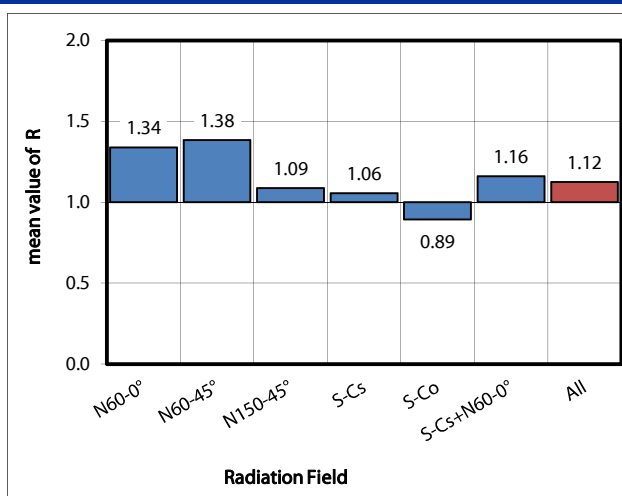
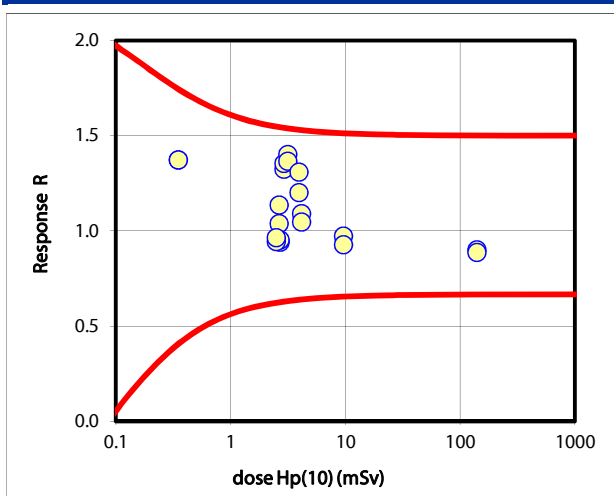
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 46 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.91	3.85	1.32	OK
	12	14/07/08	2.91	3.94	1.35	OK
N60-45°	17	17/07/08	3.14	4.40	1.40	OK
	18	17/07/08	3.14	4.29	1.37	OK
N150-45°	19	18/07/08	2.65	2.75	1.04	OK
	20	18/07/08	2.65	3.01	1.14	OK
S-Cs	1	09/07/08	0.35	0.48	1.37	OK
	2	09/07/08	0.35	0.48	1.37	OK
	3	11/07/08	2.70	2.54	0.94	OK
	4	11/07/08	2.70	2.57	0.95	OK
	5	11/07/08	2.50	2.36	0.94	OK
	6	11/07/08	2.50	2.41	0.96	OK
	7	11/07/08	9.60	9.34	0.97	OK
	8	11/07/08	9.60	8.89	0.93	OK
S-Co	9	21/07/08	140.00	125.91	0.90	OK
	10	21/07/08	140.00	124.02	0.89	OK
S-Cs+N60-0°	13	09/07/08	3.93	4.72	1.20	OK
	14	09/07/08	3.93	5.14	1.31	OK
	15	11/07/08	4.14	4.51	1.09	OK
	16	11/07/08	4.14	4.33	1.05	OK
not irradiated	21	NIR		0.17		
	22	NIR		0.15		
	23	NIR		0.18		
	24	NIR		0.16		
	25	BGR		0.18		
	26	BGR		0.17		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.34</b>	1.34	1.35	1.32	2%
N60-45°	2	<b>1.38</b>	1.38	1.40	1.37	2%
N150-45°	2	<b>1.09</b>	1.09	1.14	1.04	6%
S-Cs	8	<b>0.96</b>	1.06	1.37	0.93	19%
S-Co	2	<b>0.89</b>	0.89	0.90	0.89	1%
S-Cs+N60-0°	4	<b>1.15</b>	1.16	1.31	1.05	10%
All	20	<b>1.07</b>	1.12	1.40	0.89	19%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.12</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.07</b>



Results: IC2008

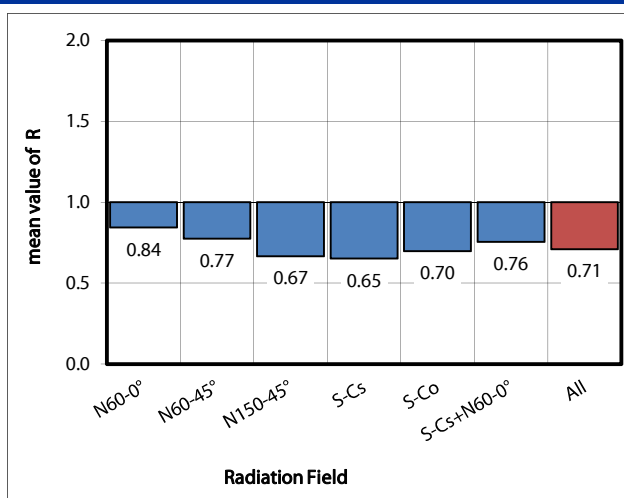
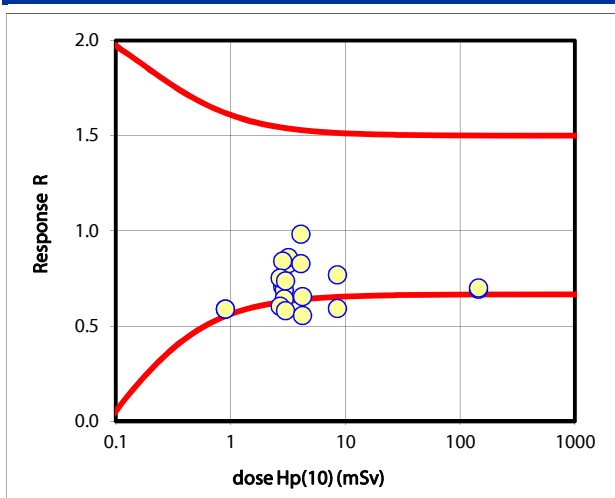
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 47 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.19	2.64	0.83	OK
	12	30/07/08	3.19	2.74	0.86	OK
N60-45°	17	31/07/08	2.84	2.01	0.71	OK
	18	31/07/08	2.84	2.39	0.84	OK
N150-45°	19	01/08/08	2.94	2.03	0.69	OK
	20	01/08/08	2.94	1.89	0.64	OK
S-Cs	1	23/07/08	0.90	0.53	0.59	OK
	2	23/07/08	0.90	0.53	0.59	OK
	3	26/07/08	2.70	2.03	0.75	OK
	4	26/07/08	2.70	1.63	0.60	outlier
	5	26/07/08	3.00	1.74	0.58	outlier
	6	26/07/08	3.00	2.21	0.74	OK
	7	26/07/08	8.50	6.53	0.77	OK
	8	26/07/08	8.50	5.04	0.59	outlier
S-Co	9	04/08/08	145.00	100.62	0.69	OK
	10	04/08/08	145.00	101.42	0.70	OK
S-Cs+N60-0°	13	23/07/08	4.10	4.03	0.98	OK
	14	23/07/08	4.10	3.39	0.83	OK
	15	26/07/08	4.23	2.35	0.56	outlier
	16	26/07/08	4.23	2.77	0.65	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.08		
	25	BGR		0.08		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>0.84</b>	0.84	0.86	0.83	3%
N60-45°	2	<b>0.77</b>	0.77	0.84	0.71	12%
N150-45°	2	<b>0.67</b>	0.67	0.69	0.64	5%
S-Cs	8	<b>0.60</b>	0.65	0.77	0.58	13%
S-Co	2	<b>0.70</b>	0.70	0.70	0.69	1%
S-Cs+N60-0°	4	<b>0.74</b>	0.76	0.98	0.56	25%
All	20	<b>0.70</b>	0.71	<b>0.98</b>	<b>0.56</b>	<b>11%</b>

<b>Number of outliers:</b>	<b>4</b>	<b>Arithmetic mean value of all R:</b>	<b>0.71</b>
<b>Fraction of outliers:</b>	<b>20%</b>	<b>Median value of all R:</b>	<b>0.70</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

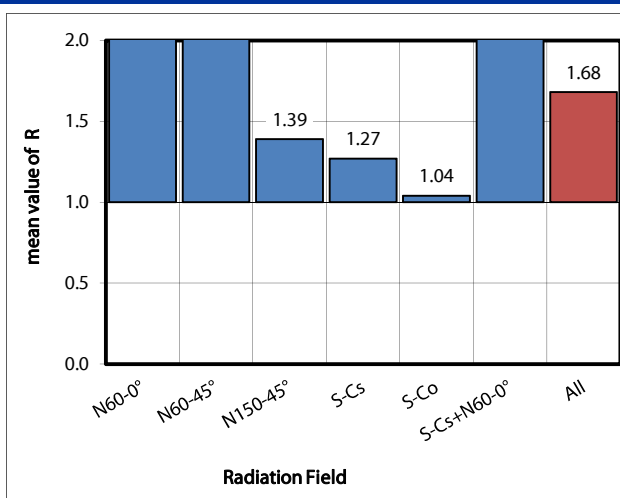
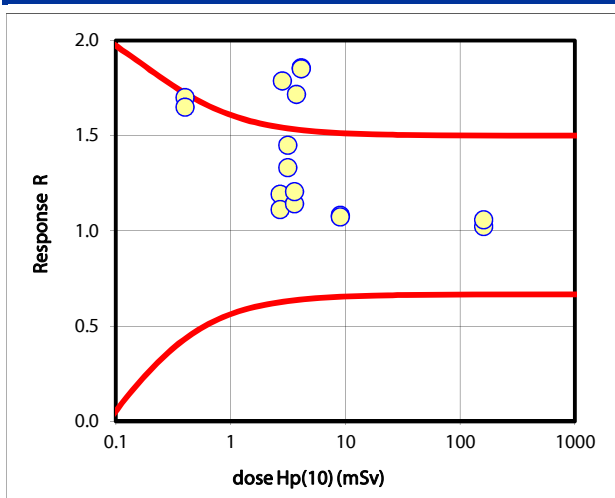


## Laboratory Nr. 48 (TLD) for dose quantity Hp(0.07)

	values reported by the irradiating laboratory			reported by participant	Result	
Radiation Quality	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.82	5.04	1.79	outlier
	12	14/07/08	2.82	7.19	2.55	outlier
N60-45°	17	17/07/08	2.13	6.07	2.85	outlier
	18	17/07/08	2.13	6.88	3.23	outlier
N150-45°	19	18/07/08	3.14	4.18	1.33	OK
	20	18/07/08	3.14	4.55	1.45	OK
S-Cs	1	09/07/08	0.40	0.68	1.70	OK
	2	09/07/08	0.40	0.66	1.65	OK
	3	10/07/08	2.70	3.22	1.19	OK
	4	10/07/08	2.70	3.00	1.11	OK
	5	10/07/08	3.60	4.11	1.14	OK
	6	10/07/08	3.60	4.34	1.21	OK
	7	10/07/08	9.00	9.74	1.08	OK
	8	10/07/08	9.00	9.66	1.07	OK
S-Co	9	21/07/08	160.00	163.58	1.02	OK
	10	21/07/08	160.00	169.16	1.06	OK
S-Cs+N60-0°	13	09/07/08	3.74	6.42	1.72	outlier
	14	09/07/08	3.74	10.26	2.74	outlier
	15	10/07/08	4.12	7.65	1.86	outlier
	16	10/07/08	4.12	7.63	1.85	outlier
not irradiated	21	NIR		0.22		
	22	NIR		0.19		
	23	NIR		0.19		
	24	NIR		0.18		
	25	BGR		0.18		
	26	BGR		0.18		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>2.17</b>	2.17	2.55	1.79	25%
N60-45°	2	<b>3.04</b>	3.04	3.23	2.85	9%
N150-45°	2	<b>1.39</b>	1.39	1.45	1.33	6%
S-Cs	8	<b>1.17</b>	1.27	1.70	1.07	20%
S-Co	2	<b>1.04</b>	1.04	1.06	1.02	2%
S-Cs+N60-0°	4	<b>1.85</b>	2.04	2.74	1.72	23%
All	20	<b>1.55</b>	<b>1.68</b>	<b>3.23</b>	<b>1.02</b>	<b>67%</b>

<b>Number of outliers:</b>	<b>8</b>	<b>Arithmetic mean value of all R:</b>	<b>1.68</b>
<b>Fraction of outliers:</b>	<b>40%</b>	<b>Median value of all R:</b>	<b>1.55</b>



Results: IC2008

4 values out of diagramme range (>2)!

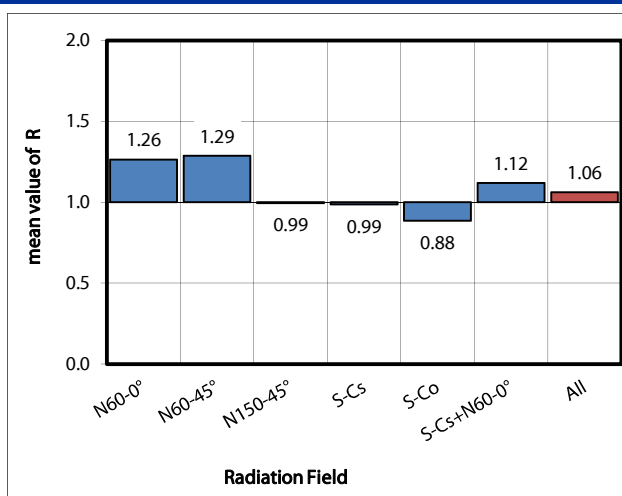
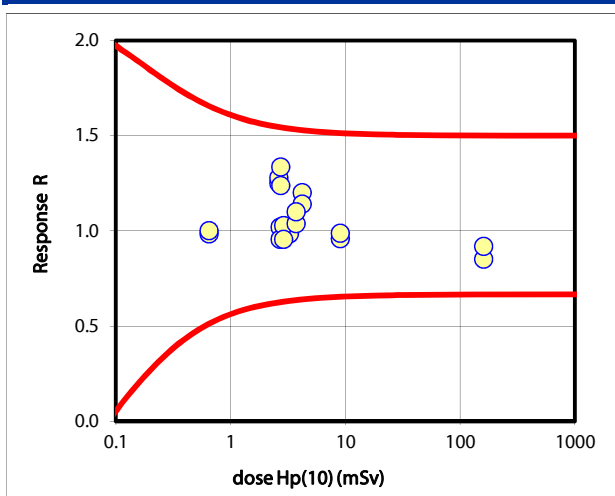
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 49 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.63	3.29	1.25	OK
	12	15/07/08	2.63	3.36	1.28	OK
N60-45°	17	17/07/08	2.74	3.39	1.24	OK
	18	17/07/08	2.74	3.66	1.34	OK
N150-45°	19	18/07/08	3.24	3.25	1.00	OK
	20	18/07/08	3.24	3.19	0.98	OK
S-Cs	1	09/07/08	0.65	0.64	0.98	OK
	2	09/07/08	0.65	0.65	1.00	OK
	3	11/07/08	2.70	2.75	1.02	OK
	4	11/07/08	2.70	2.58	0.96	OK
	5	11/07/08	2.90	2.98	1.03	OK
	6	11/07/08	2.90	2.77	0.96	OK
	7	11/07/08	9.00	8.63	0.96	OK
	8	11/07/08	9.00	8.88	0.99	OK
S-Co	9	21/07/08	160.00	136.24	0.85	OK
	10	21/07/08	160.00	146.83	0.92	OK
S-Cs+N60-0°	13	09/07/08	4.20	5.04	1.20	OK
	14	09/07/08	4.20	4.79	1.14	OK
	15	11/07/08	3.72	3.86	1.04	OK
	16	11/07/08	3.72	4.09	1.10	OK
not irradiated	21	NIR		0.04		
	22	NIR		0.03		
	23	NIR		0.03		
	24	NIR		0.04		
	25	BGR		0.02		
	26	BGR		0.04		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.26</b>	1.26	1.28	1.25	1%
N60-45°	2	<b>1.29</b>	1.29	1.34	1.24	5%
N150-45°	2	<b>0.99</b>	0.99	1.00	0.98	1%
S-Cs	8	<b>0.99</b>	0.99	1.03	0.96	3%
S-Co	2	<b>0.88</b>	0.88	0.92	0.85	5%
S-Cs+N60-0°	4	<b>1.12</b>	1.12	1.20	1.04	6%
All	20	<b>1.01</b>	<b>1.06</b>	<b>1.34</b>	<b>0.85</b>	<b>13%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.06</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

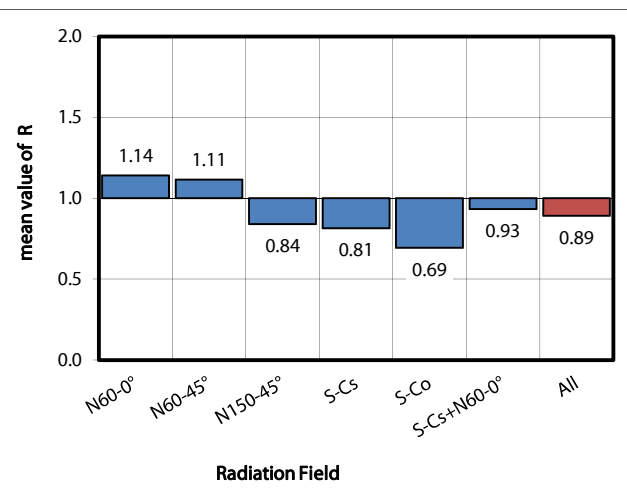
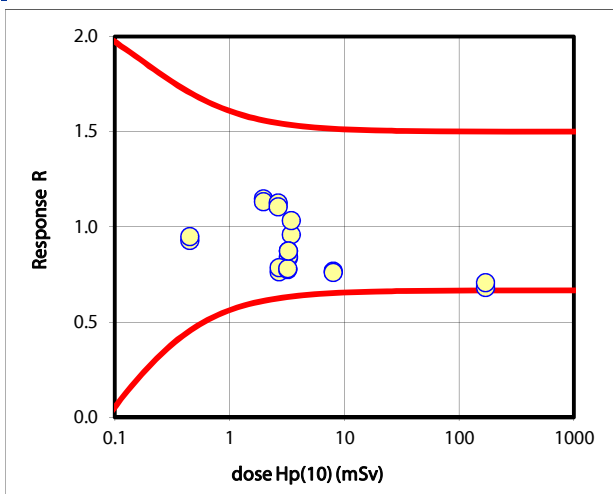
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 51 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	1.97	2.26	1.15	OK
	12	30/07/08	1.97	2.23	1.13	OK
N60-45°	17	31/07/08	2.64	2.97	1.12	OK
	18	31/07/08	2.64	2.92	1.11	OK
N150-45°	19	04/08/08	3.24	2.71	0.84	OK
	20	04/08/08	3.24	2.74	0.84	OK
S-Cs	1	24/07/08	0.45	0.42	0.93	OK
	2	24/07/08	0.45	0.43	0.95	OK
	3	29/07/08	2.70	2.06	0.76	OK
	4	29/07/08	2.70	2.12	0.79	OK
	5	29/07/08	3.20	2.48	0.78	OK
	6	29/07/08	3.20	2.50	0.78	OK
	7	29/07/08	8.00	6.14	0.77	OK
	8	29/07/08	8.00	6.08	0.76	OK
S-Co	9	04/08/08	170.00	115.70	0.68	OK
	10	04/08/08	170.00	120.18	0.71	OK
S-Cs+N60-0°	13	24/07/08	3.45	3.31	0.96	OK
	14	24/07/08	3.45	3.56	1.03	OK
	15	29/07/08	3.25	2.84	0.87	OK
	16	29/07/08	3.25	2.84	0.87	OK
not irradiated	21	NIR		0.08		
	22	NIR		0.10		
	23	NIR		0.09		
	24	NIR		0.08		
	25	BGR		0.08		
	26	BGR		0.10		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.14</b>	1.14	1.15	1.13	1%
N60-45°	2	<b>1.11</b>	1.11	1.12	1.11	1%
N150-45°	2	<b>0.84</b>	0.84	0.84	0.84	1%
S-Cs	8	<b>0.78</b>	0.81	0.95	0.76	10%
S-Co	2	<b>0.69</b>	0.69	0.71	0.68	3%
S-Cs+N60-0°	4	<b>0.92</b>	0.93	1.03	0.87	8%
All	20	<b>0.86</b>	<b>0.89</b>	<b>1.15</b>	<b>0.68</b>	<b>15%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.89</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.86</b>



Results: IC2008

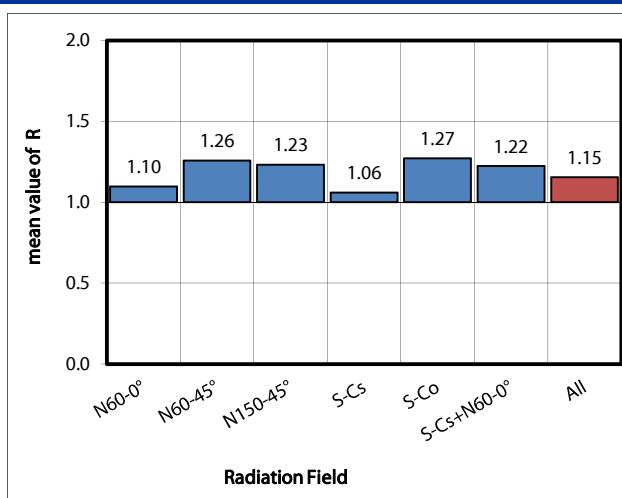
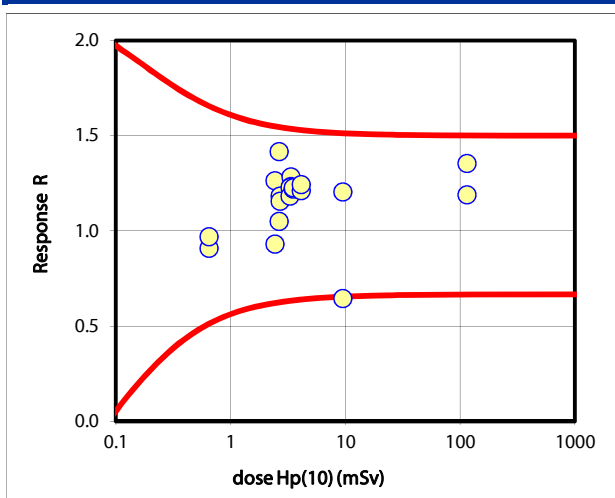
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 52 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.44	2.27	0.93	OK
	12	14/07/08	2.44	3.08	1.26	OK
N60-45°	17	17/07/08	3.35	4.30	1.28	OK
	18	17/07/08	3.35	4.13	1.23	OK
N150-45°	19	18/07/08	2.65	3.75	1.42	OK
	20	18/07/08	2.65	2.78	1.05	OK
S-Cs	1	09/07/08	0.65	0.59	0.91	OK
	2	09/07/08	0.65	0.63	0.97	OK
	3	10/07/08	2.70	3.19	1.18	OK
	4	10/07/08	2.70	3.12	1.16	OK
	5	10/07/08	3.30	4.05	1.23	OK
	6	10/07/08	3.30	3.90	1.18	OK
	7	10/07/08	9.50	11.44	1.20	OK
	8	10/07/08	9.50	6.12	0.64	outlier
S-Co	9	21/07/08	115.00	136.70	1.19	OK
	10	21/07/08	115.00	155.69	1.35	OK
S-Cs+N60-0°	13	09/07/08	3.50	4.27	1.22	OK
	14	09/07/08	3.50	4.29	1.23	OK
	15	10/07/08	4.13	5.00	1.21	OK
	16	10/07/08	4.13	5.13	1.24	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.10</b>	1.10	1.26	0.93	21%
N60-45°	2	<b>1.26</b>	1.26	1.28	1.23	3%
N150-45°	2	<b>1.23</b>	1.23	1.42	1.05	21%
S-Cs	8	<b>1.17</b>	1.06	1.23	0.64	19%
S-Co	2	<b>1.27</b>	1.27	1.35	1.19	9%
S-Cs+N60-0°	4	<b>1.22</b>	1.22	1.24	1.21	1%
All	20	<b>1.21</b>	<b>1.15</b>	<b>1.42</b>	<b>0.64</b>	<b>18%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>1.15</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>1.21</b>



Results: IC2008

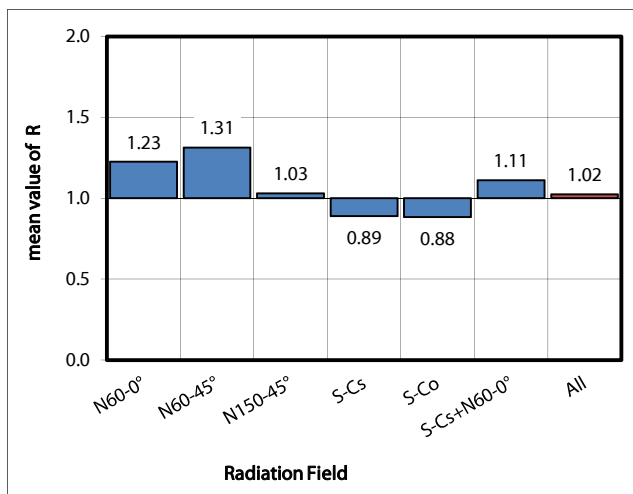
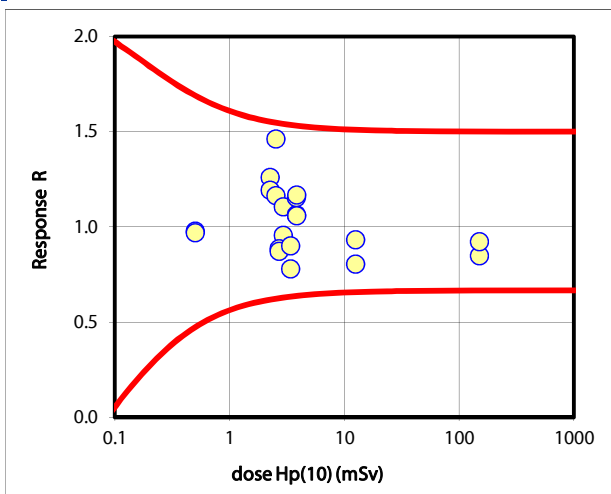
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 53 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.26	2.85	1.26	OK
	12	31/07/08	2.26	2.69	1.19	OK
N60-45°	17	01/08/08	2.53	2.94	1.16	OK
	18	01/08/08	2.53	3.70	1.46	OK
N150-45°	19	04/08/08	2.94	2.81	0.95	OK
	20	04/08/08	2.94	3.25	1.10	OK
S-Cs	1	24/07/08	0.50	0.49	0.98	OK
	2	24/07/08	0.50	0.48	0.97	OK
	3	29/07/08	2.70	2.39	0.88	OK
	4	29/07/08	2.70	2.35	0.87	OK
	5	29/07/08	3.40	2.65	0.78	OK
	6	29/07/08	3.40	3.06	0.90	OK
	7	29/07/08	12.50	10.06	0.80	OK
	8	29/07/08	12.50	11.65	0.93	OK
S-Co	9	04/08/08	150.00	127.10	0.85	OK
	10	04/08/08	150.00	138.20	0.92	OK
S-Cs+N60-0°	13	24/07/08	3.82	4.06	1.06	OK
	14	24/07/08	3.82	4.41	1.15	OK
	15	29/07/08	3.83	4.47	1.17	OK
	16	29/07/08	3.83	4.05	1.06	OK
not irradiated	21	NIR		0.07		
	22	NIR		0.01		
	23	NIR		0.04		
	24	NIR		0.03		
	25	BGR		0.18		
	26	BGR		0.23		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.23</b>	1.23	1.26	1.19	4%
N60-45°	2	<b>1.31</b>	1.31	1.46	1.16	16%
N150-45°	2	<b>1.03</b>	1.03	1.10	0.95	10%
S-Cs	8	<b>0.89</b>	0.89	0.98	0.78	8%
S-Co	2	<b>0.88</b>	0.88	0.92	0.85	6%
S-Cs+N60-0°	4	<b>1.11</b>	1.11	1.17	1.06	5%
All	20	<b>0.97</b>	<b>1.02</b>	<b>1.46</b>	<b>0.78</b>	<b>17%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.02</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.97</b>



Results: IC2008

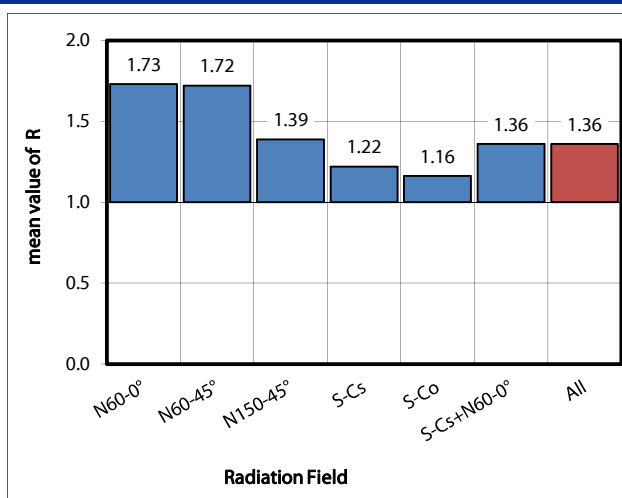
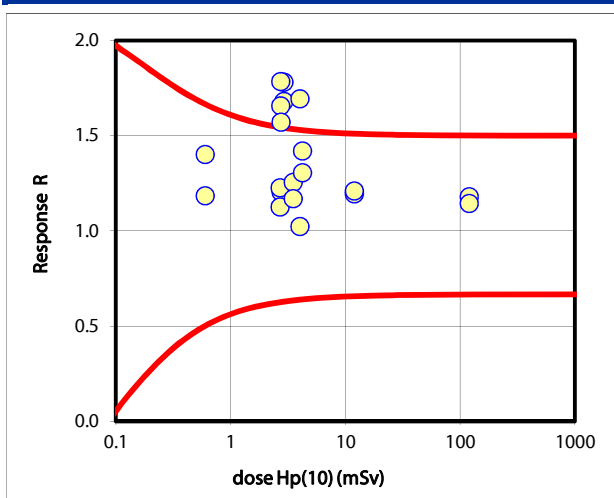
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 54 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	14/07/08	2.91	4.89	1.68	outlier
	12	14/07/08	2.91	5.18	1.78	outlier
N60-45°	17	17/07/08	2.74	4.89	1.78	outlier
	18	17/07/08	2.74	4.54	1.66	outlier
N150-45°	19	18/07/08	2.75	3.31	1.20	OK
	20	18/07/08	2.75	4.32	1.57	outlier
S-Cs	1	09/07/08	0.60	0.71	1.18	OK
	2	09/07/08	0.60	0.84	1.40	OK
	3	11/07/08	2.70	3.31	1.23	OK
	4	11/07/08	2.70	3.04	1.13	OK
	5	11/07/08	3.50	4.39	1.25	OK
	6	11/07/08	3.50	4.09	1.17	OK
	7	11/07/08	12.00	14.33	1.19	OK
	8	11/07/08	12.00	14.51	1.21	OK
S-Co	9	21/07/08	120.00	141.47	1.18	OK
	10	21/07/08	120.00	137.32	1.14	OK
S-Cs+N60-0°	13	09/07/08	4.01	4.10	1.02	OK
	14	09/07/08	4.01	6.79	1.69	outlier
	15	11/07/08	4.23	6.00	1.42	OK
	16	11/07/08	4.23	5.52	1.30	OK
not irradiated	21	NIR		0.05		
	22	NIR		0.08		
	23	NIR		0.25		
	24	NIR		0.27		
	25	BGR		0.01		
	26	BGR		0.27		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.73</b>	1.73	1.78	1.68	4%
N60-45°	2	<b>1.72</b>	1.72	1.78	1.66	5%
N150-45°	2	<b>1.39</b>	1.39	1.57	1.20	19%
S-Cs	8	<b>1.20</b>	1.22	1.40	1.13	7%
S-Co	2	<b>1.16</b>	1.16	1.18	1.14	2%
S-Cs+N60-0°	4	<b>1.36</b>	1.36	1.69	1.02	20%
All	20	<b>1.24</b>	<b>1.36</b>	<b>1.78</b>	<b>1.02</b>	<b>24%</b>

<b>Number of outliers: 6</b>	<b>Arithmetic mean value of all R: 1.36</b>
<b>Fraction of outliers: 30%</b>	<b>Median value of all R: 1.24</b>



Results: IC2008

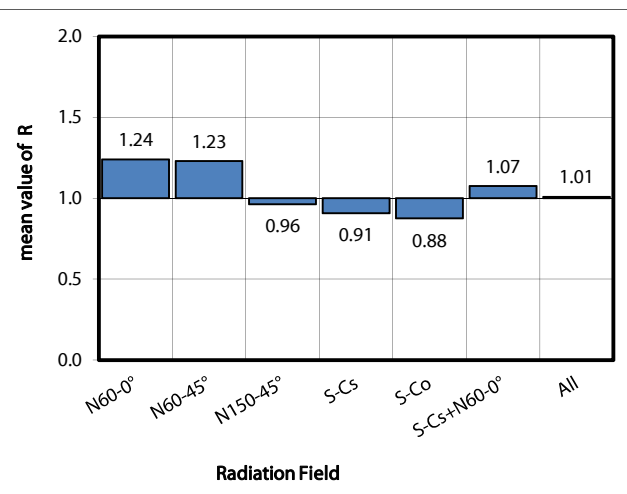
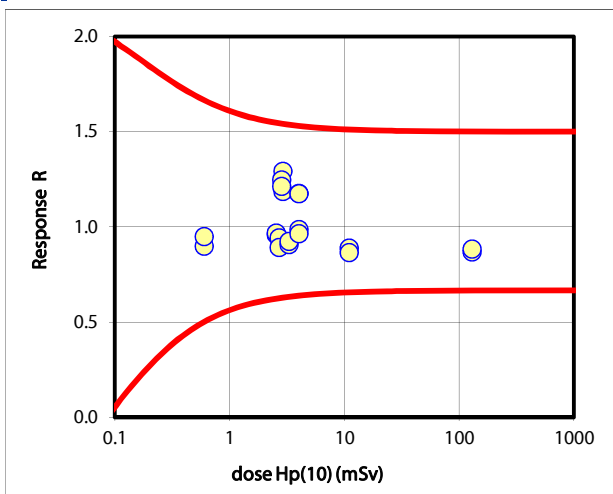
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 55 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	15/07/08	2.91	3.76	1.29	OK
	12	15/07/08	2.91	3.45	1.19	OK
N60-45°	17	17/07/08	2.84	3.54	1.25	OK
	18	17/07/08	2.84	3.45	1.21	OK
N150-45°	19	18/07/08	2.55	2.45	0.96	OK
	20	18/07/08	2.55	2.46	0.97	OK
S-Cs	1	09/07/08	0.60	0.54	0.90	OK
	2	09/07/08	0.60	0.57	0.95	OK
	3	11/07/08	2.70	2.54	0.94	OK
	4	11/07/08	2.70	2.41	0.89	OK
	5	11/07/08	3.30	2.99	0.91	OK
	6	11/07/08	3.30	3.05	0.92	OK
	7	11/07/08	11.00	9.78	0.89	OK
	8	11/07/08	11.00	9.51	0.86	OK
S-Co	9	21/07/08	130.00	112.83	0.87	OK
	10	21/07/08	130.00	114.84	0.88	OK
S-Cs+N60-0°	13	09/07/08	4.01	4.72	1.18	OK
	14	09/07/08	4.01	4.71	1.17	OK
	15	11/07/08	4.03	3.97	0.99	OK
	16	11/07/08	4.03	3.88	0.96	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		0.14		
	26	BGR		0.13		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.24</b>	1.24	1.29	1.19	6%
N60-45°	2	<b>1.23</b>	1.23	1.25	1.21	2%
N150-45°	2	<b>0.96</b>	0.96	0.97	0.96	1%
S-Cs	8	<b>0.90</b>	0.91	0.95	0.86	3%
S-Co	2	<b>0.88</b>	0.88	0.88	0.87	1%
S-Cs+N60-0°	4	<b>1.08</b>	1.07	1.18	0.96	11%
All	20	<b>0.95</b>	1.01	1.29	0.86	14%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.01</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.95</b>



Results: IC2008

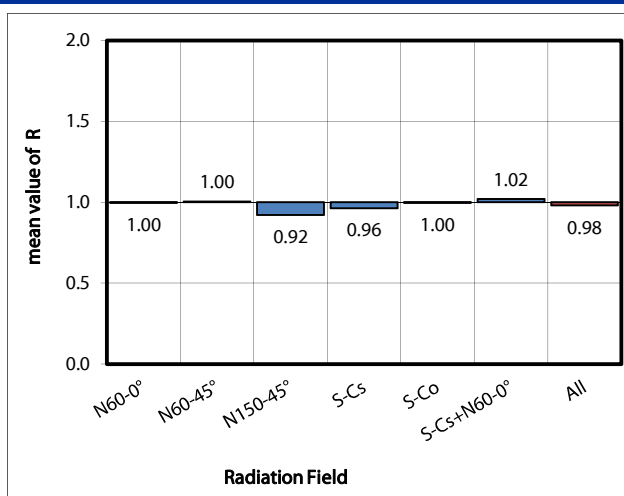
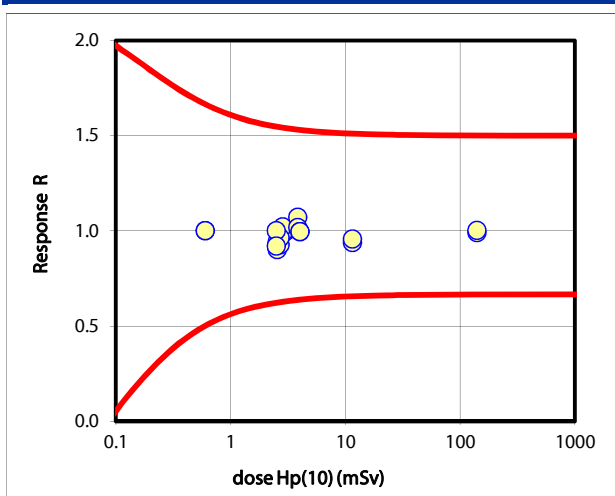
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 56 (TLD) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	3.01	3.00	1.00	OK
	12	30/07/08	3.01	3.00	1.00	OK
N60-45°	17	31/07/08	2.84	2.80	0.99	OK
	18	31/07/08	2.84	2.90	1.02	OK
N150-45°	19	01/08/08	2.55	2.30	0.90	OK
	20	01/08/08	2.55	2.40	0.94	OK
S-Cs	1	23/07/08	0.60	0.60	1.00	OK
	2	23/07/08	0.60	0.60	1.00	OK
	3	26/07/08	2.70	2.50	0.93	OK
	4	26/07/08	2.70	2.60	0.96	OK
	5	26/07/08	2.50	2.50	1.00	OK
	6	26/07/08	2.50	2.30	0.92	OK
	7	26/07/08	11.50	10.80	0.94	OK
	8	26/07/08	11.50	11.00	0.96	OK
S-Co	9	04/08/08	140.00	138.80	0.99	OK
	10	04/08/08	140.00	140.40	1.00	OK
S-Cs+N60-0°	13	23/07/08	3.83	4.10	1.07	OK
	14	23/07/08	3.83	3.90	1.02	OK
	15	26/07/08	4.02	4.00	1.00	OK
	16	26/07/08	4.02	4.00	1.00	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.00	1.00	1.00	1.00	0%
N60-45°	2	1.00	1.00	1.02	0.99	2%
N150-45°	2	0.92	0.92	0.94	0.90	3%
S-Cs	8	0.96	0.96	1.00	0.92	3%
S-Co	2	1.00	1.00	1.00	0.99	1%
S-Cs+N60-0°	4	1.01	1.02	1.07	1.00	3%
All	20	1.00	0.98	1.07	0.90	4%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.98</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.00</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

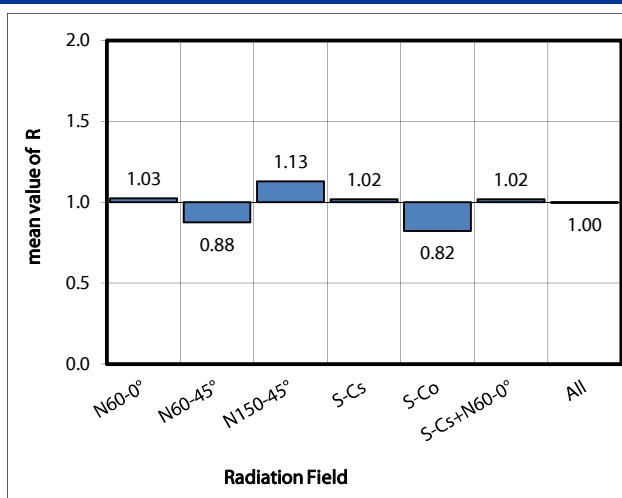
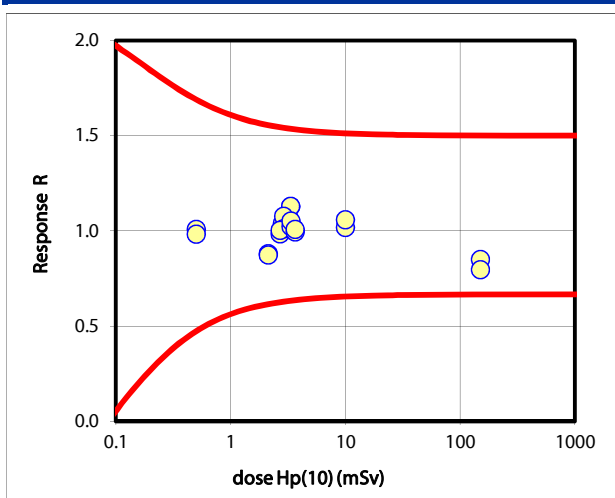


## Laboratory Nr. 57 (Other) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	31/07/08	2.82	2.93	1.04	OK
	12	31/07/08	2.82	2.86	1.01	OK
N60-45°	17	01/08/08	2.13	1.87	0.88	OK
	18	01/08/08	2.13	1.86	0.87	OK
N150-45°	19	04/08/08	3.34	3.76	1.13	OK
	20	04/08/08	3.34	3.77	1.13	OK
S-Cs	1	25/07/08	0.50	0.50	1.01	OK
	2	25/07/08	0.50	0.49	0.98	OK
	4	29/07/08	2.70	2.66	0.98	OK
	5	29/07/08	2.90	3.12	1.08	OK
	6	29/07/08	2.90	2.93	1.01	OK
	7	29/07/08	10.00	10.18	1.02	OK
	8	29/07/08	10.00	10.57	1.06	OK
	21	29/07/08	2.70	2.71	1.00	OK
S-Co	10	04/08/08	150.00	127.45	0.85	OK
	22	04/08/08	150.00	119.43	0.80	OK
S-Cs+N60-0°	13	25/07/08	3.36	3.44	1.02	OK
	14	25/07/08	3.36	3.53	1.05	OK
	15	29/07/08	3.66	3.64	0.99	OK
	16	29/07/08	3.66	3.69	1.01	OK
not irradiated	3	WIR		0.57		
	9	WIR		101.19		
	23	NIR		0.00		
	24	NIR		0.01		
	25	BGR		0.08		
	26	BGR		0.07		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.03</b>	1.03	1.04	1.01	2%
N60-45°	2	<b>0.88</b>	0.88	0.88	0.87	1%
N150-45°	2	<b>1.13</b>	1.13	1.13	1.13	0%
S-Cs	8	<b>1.01</b>	1.02	1.08	0.98	3%
S-Co	2	<b>0.82</b>	0.82	0.85	0.80	5%
S-Cs+N60-0°	4	<b>1.01</b>	1.02	1.05	0.99	2%
All	20	<b>1.01</b>	<b>1.00</b>	<b>1.13</b>	<b>0.80</b>	<b>9%</b>

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.00</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.01</b>



Results: IC2008

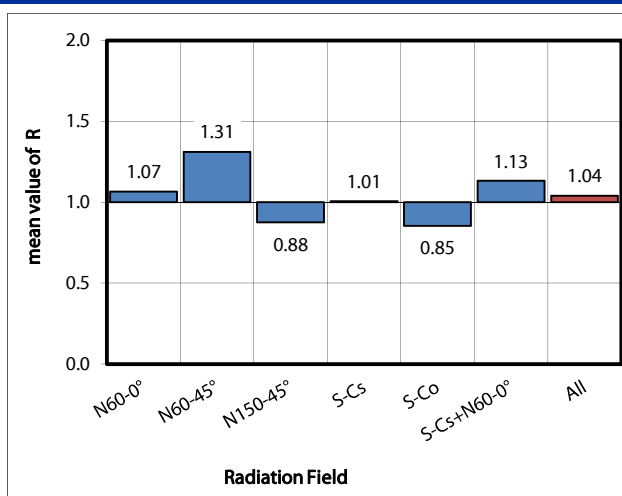
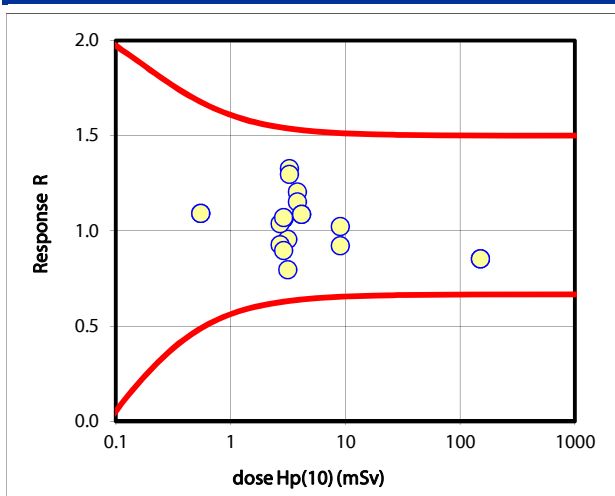
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 58 (Other) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.91	3.10	1.07	OK
	12	30/07/08	2.91	3.10	1.07	OK
N60-45°	17	31/07/08	3.24	4.30	1.33	OK
	18	31/07/08	3.24	4.20	1.30	OK
N150-45°	19	04/08/08	3.14	3.00	0.96	OK
	20	04/08/08	3.14	2.50	0.80	OK
S-Cs	1	24/07/08	0.55	0.60	1.09	OK
	2	24/07/08	0.55	0.60	1.09	OK
	3	28/07/08	2.70	2.50	0.93	OK
	4	28/07/08	2.70	2.80	1.04	OK
	5	28/07/08	2.90	3.10	1.07	OK
	6	28/07/08	2.90	2.60	0.90	OK
	7	28/07/08	9.00	8.30	0.92	OK
	8	28/07/08	9.00	9.20	1.02	OK
S-Co	9	04/08/08	150.00	128.00	0.85	OK
	10	04/08/08	150.00	128.00	0.85	OK
S-Cs+N60-0°	13	24/07/08	3.82	4.60	1.20	OK
	14	24/07/08	3.82	4.40	1.15	OK
	15	28/07/08	4.14	4.50	1.09	OK
	16	28/07/08	4.14	4.50	1.09	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	1.07	1.07	1.07	1.07	0%
N60-45°	2	1.31	1.31	1.33	1.30	2%
N150-45°	2	0.88	0.88	0.96	0.80	13%
S-Cs	8	1.03	1.01	1.09	0.90	8%
S-Co	2	0.85	0.85	0.85	0.85	0%
S-Cs+N60-0°	4	1.12	1.13	1.20	1.09	5%
All	20	1.07	1.04	1.33	0.80	14%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>1.07</b>



Results: IC2008

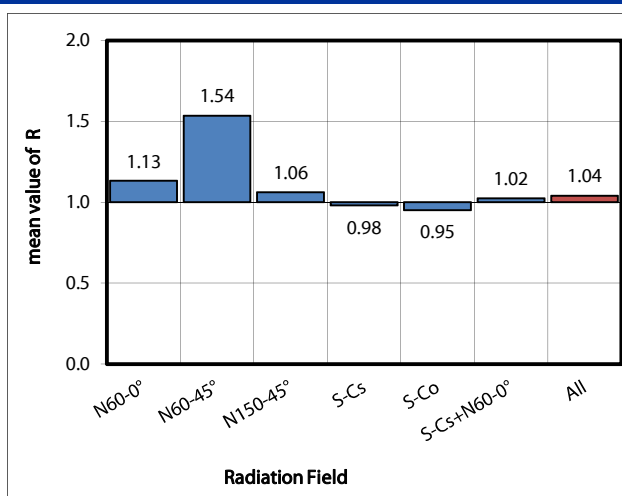
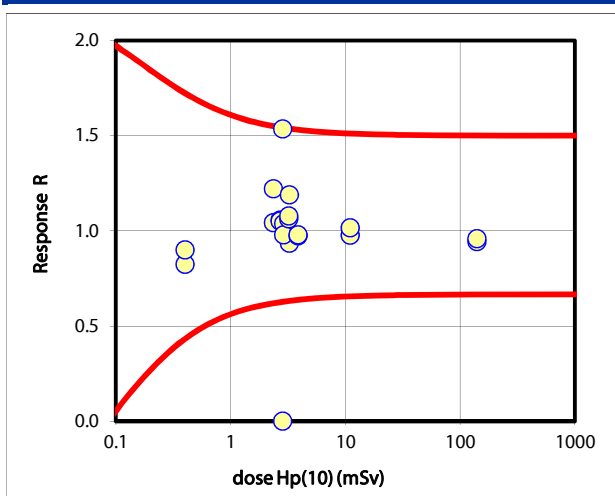
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 59 (Other) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.35	2.87	1.22	OK
	12	30/07/08	2.35	2.45	1.04	OK
N60-45°	17	31/07/08	2.84	4.36	1.54	OK
	18	31/07/08	2.84	-	-	outlier
N150-45°	19	04/08/08	3.24	3.03	0.94	OK
	20	04/08/08	3.24	3.85	1.19	OK
S-Cs	1	24/07/08	0.40	0.33	0.83	OK
	2	24/07/08	0.40	0.36	0.90	OK
	3	29/07/08	2.70	2.85	1.06	OK
	4	29/07/08	2.70	2.84	1.05	OK
	5	29/07/08	2.90	3.01	1.04	OK
	6	29/07/08	2.90	2.84	0.98	OK
	7	29/07/08	11.00	10.75	0.98	OK
	8	29/07/08	11.00	11.17	1.02	OK
S-Co	9	04/08/08	140.00	131.99	0.94	OK
	10	04/08/08	140.00	134.15	0.96	OK
S-Cs+N60-0°	13	24/07/08	3.21	3.41	1.06	OK
	14	24/07/08	3.21	3.46	1.08	OK
	15	29/07/08	3.86	3.76	0.97	OK
	16	29/07/08	3.86	3.78	0.98	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	<b>1.13</b>	1.13	1.22	1.04	11%
N60-45°	1	<b>1.54</b>	1.54	1.54	1.54	-
N150-45°	2	<b>1.06</b>	1.06	1.19	0.94	17%
S-Cs	8	<b>1.00</b>	0.98	1.06	0.83	8%
S-Co	2	<b>0.95</b>	0.95	0.96	0.94	1%
S-Cs+N60-0°	4	<b>1.02</b>	1.02	1.08	0.97	5%
All	19	<b>1.02</b>	<b>1.04</b>	<b>1.54</b>	<b>0.83</b>	<b>15%</b>

<b>Number of outliers:</b>	<b>1</b>	<b>Arithmetic mean value of all R:</b>	<b>1.04</b>
<b>Fraction of outliers:</b>	<b>5%</b>	<b>Median value of all R:</b>	<b>1.02</b>



Results: IC2008

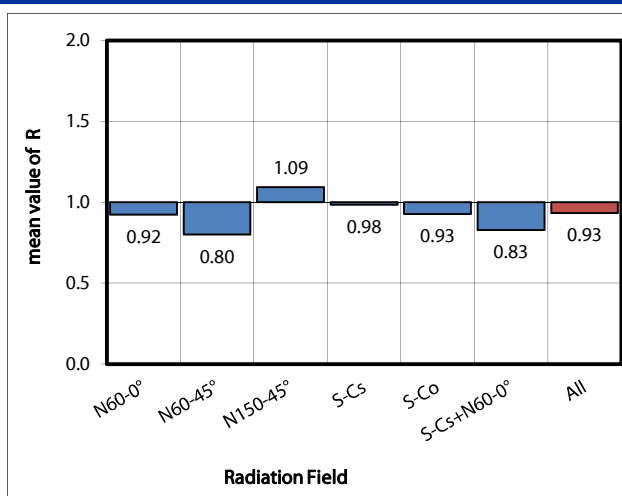
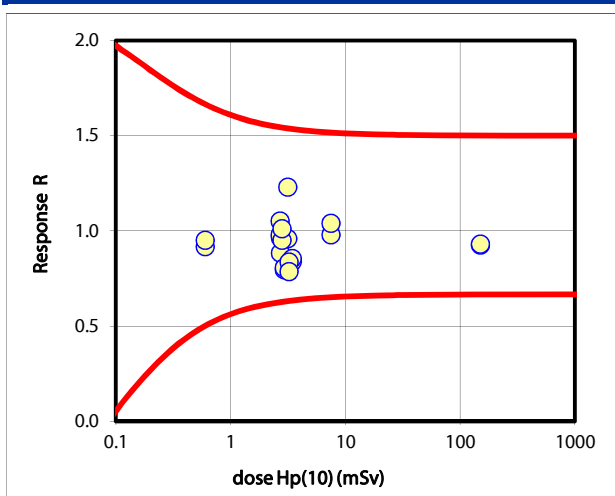
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 61 (Other) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	30/07/08	2.72	2.40	0.88	OK
	12	30/07/08	2.72	2.62	0.96	OK
N60-45°	17	31/07/08	2.94	2.34	0.80	OK
	18	31/07/08	2.94	2.37	0.81	OK
N150-45°	19	04/08/08	3.14	3.86	1.23	OK
	20	04/08/08	3.14	3.01	0.96	OK
S-Cs	1	24/07/08	0.60	0.55	0.92	OK
	2	24/07/08	0.60	0.57	0.95	OK
	3	28/07/08	2.70	2.84	1.05	OK
	4	28/07/08	2.70	2.64	0.98	OK
	5	28/07/08	2.80	2.66	0.95	OK
	6	28/07/08	2.80	2.83	1.01	OK
	7	28/07/08	7.50	7.34	0.98	OK
	8	28/07/08	7.50	7.79	1.04	OK
S-Co	9	04/08/08	150.00	138.64	0.92	OK
	10	04/08/08	150.00	139.59	0.93	OK
S-Cs+N60-0°	13	24/07/08	3.45	2.89	0.84	OK
	14	24/07/08	3.45	2.95	0.86	OK
	15	28/07/08	3.23	2.70	0.84	OK
	16	28/07/08	3.23	2.54	0.79	OK
not irradiated	21	NIR		-		
	22	NIR		-		
	23	NIR		-		
	24	NIR		-		
	25	BGR		-		
	26	BGR		-		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.92	0.92	0.96	0.88	6%
N60-45°	2	0.80	0.80	0.81	0.80	1%
N150-45°	2	1.09	1.09	1.23	0.96	17%
S-Cs	8	0.98	0.98	1.05	0.92	5%
S-Co	2	0.93	0.93	0.93	0.92	0%
S-Cs+N60-0°	4	0.84	0.83	0.86	0.79	4%
All	20	0.94	0.93	1.23	0.79	10%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.93</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

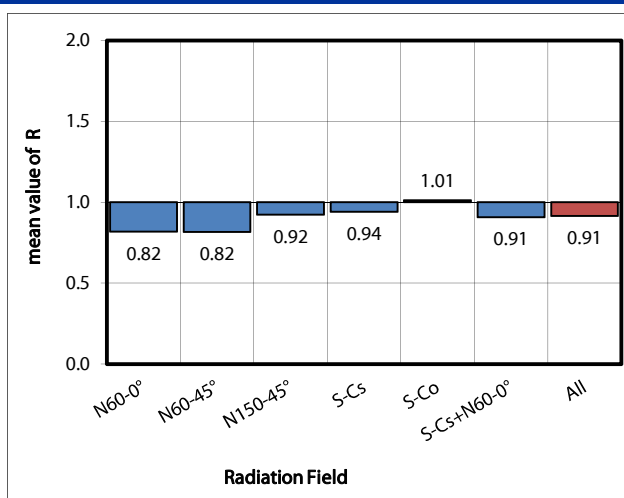
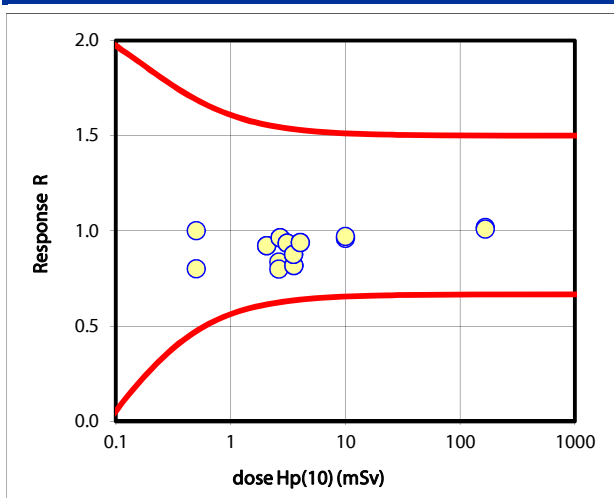
trumpet parameter: 1.5/0.085 mSv

## Laboratory Nr. 62 (Other) for dose quantity Hp(0.07)

Radiation Quality	values reported by the irradiating laboratory			reported by participant	Result	
	Dosimeter ID	Irradiation Date	Dose mSv	Dose mSv	Response R (reported/true)	
N60-0°	11	29/07/08	2.63	2.20	0.84	OK
	12	29/07/08	2.63	2.10	0.80	OK
N60-45°	17	31/07/08	3.55	2.90	0.82	OK
	18	31/07/08	3.55	2.90	0.82	OK
N150-45°	19	01/08/08	2.06	1.90	0.92	OK
	20	01/08/08	2.06	1.90	0.92	OK
S-Cs	1	23/07/08	0.50	0.40	0.80	OK
	2	23/07/08	0.50	0.50	1.00	OK
	3	25/07/08	2.70	2.60	0.96	OK
	4	25/07/08	2.70	2.60	0.96	OK
	5	25/07/08	3.10	2.90	0.94	OK
	6	25/07/08	3.10	2.90	0.94	OK
	7	25/07/08	10.00	9.60	0.96	OK
	8	25/07/08	10.00	9.70	0.97	OK
S-Co	9	04/08/08	165.00	167.90	1.02	OK
	10	04/08/08	165.00	166.40	1.01	OK
S-Cs+N60-0°	13	23/07/08	3.54	3.10	0.88	OK
	14	23/07/08	3.54	3.10	0.88	OK
	15	25/07/08	4.05	3.80	0.94	OK
	16	25/07/08	4.05	3.80	0.94	OK
not irradiated	21	NIR		0.00		
	22	NIR		0.00		
	23	NIR		0.00		
	24	NIR		0.00		
	25	BGR		0.00		
	26	BGR		0.00		

Radiation Quality	Number of values	Median value (R)	Mean value (R)	Maximum value (R)	Minimum value (R)	relat. Standarddev. (R)
N60-0°	2	0.82	0.82	0.84	0.80	3%
N60-45°	2	0.82	0.82	0.82	0.82	0%
N150-45°	2	0.92	0.92	0.92	0.92	0%
S-Cs	8	0.96	0.94	1.00	0.80	6%
S-Co	2	1.01	1.01	1.02	1.01	1%
S-Cs+N60-0°	4	0.91	0.91	0.94	0.88	4%
All	20	0.94	0.91	1.02	0.80	7%

<b>Number of outliers:</b>	<b>0</b>	<b>Arithmetic mean value of all R:</b>	<b>0.91</b>
<b>Fraction of outliers:</b>	<b>0%</b>	<b>Median value of all R:</b>	<b>0.94</b>



Results: IC2008

trumpet parameter: 1.5/0.085 mSv

