



The Abdus Salam
International Centre
for Theoretical Physics



Workshop on Reference Dosimetry in External Beam Radiotherapy and Brachytherapy

Description:

Dosimetry is fundamental for radiotherapy including brachytherapy. It has been recognised that harmonising dosimetry internationally is essential. The IAEA, working with various professional societies, has been key in writing international codes of practice for dosimetry.

MORE DETAILS:

In 2023 the IAEA published TRS-492, dosimetry in brachytherapy, which addresses SSDs and hospitals. This is the first code of practice for brachytherapy as the IAEA had previously published an IAEA-TECDOC-1274 Guidelines on standardized procedures at Secondary Standards Dosimetry Laboratories (SSDLs) and hospitals. The TRS-398 Rev.1, Absorbed Dose Determination in External Beam Radiotherapy was published in 2024. This is a revision of the previous publication from the year 2000. This publication addresses the need for a systematic and internationally unified approach to the calibration of ionization chambers in terms of absorbed dose to water and to the use of these detectors in the determination of absorbed dose to water for the radiation beams used in radiotherapy — namely low, medium, and high energy photon beams, electron beams, proton beams and heavier ion beams. It is addressed to users provided with calibrations in terms of absorbed dose to water traceable to a standards dosimetry laboratory. The SSDL's also implement the formalism and code of practice discussed in this publication.

TOPICS:

- The international measurement system and standards
- Quantities and units
- Establishment and dissemination of calibration quantities including instrumentation needed
- $N_{D,W}$ based formalism
- Code of practice for ^{60}Co gamma ray beams
- Code of practice for high energy photon beams
- Code of practice for high energy electron beams
- Code of practice for low and medium energy kilovoltage X ray beams
- Code of practice for protons and light ion beams
- Dosimetry formalism for brachytherapy
- Code of practice for well type chamber calibration and source strength measurements
- Application of reference quantities in the hospital
- Measurement uncertainties

SPEAKERS:

K. Christaki, IAEA, Austria
H. Palmans, NPL, UK



3 - 7 November 2025



Trieste, Italy



**Deadline:
15 July 2025**

DIRECTOR:

Z. Msimang, (IAEA, Austria)

LOCAL ORGANISER:

M. Esposito, (ICTP, Italy)

FURTHER INFORMATION:

E-mail: smr4111@ictp.it

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Female scientists are encouraged to apply.



GRANTS:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

