104. **Sitzung des AKD**

Datum: 14.-15.10.2026

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Vortragende/r Angaben zur Person: (maximal 200 Zeichen)	Tobias Elhom, CERN / Technical University of Denmark
Titel des Vortrages: (maximal 100 Zeichen)	Dosimetry studies for CERN's MEDICIS facility using FLUKA and the ICRP 145 adult Mesh-type Reference
Dateinamen der beigefügten Abbildungen, maximal zwei Abbildungen - bitte speichern Sie Tabellen o.ä. als Abbildung: (maximal 100 Zeichen)	
Zusammenfassung: (maximal 1.200 Zeichen)	The study presented here applies FLUKA and the ICRP 145 adult Mesh-type Reference Computational Phantoms to a representative radionuclide-processing geometry at CERN-MEDICIS. Energy-dependent photon-to-dose coefficients are calculated for the absorbed dose to the lens of the eye, ambient dose equivalent, and effective dose, including the influence of a glovebox. The results show that the glovebox provides significant shielding of low-energy photons, with the shielding effect decreasing with increasing photon energy. At the highest energies, dose coefficients for the lens dose and ambient dose equivalent obtained with the glovebox exceed those obtained without the glovebox. The ambient dose equivalent is found to provide a conservative estimate of lens dose across the investigated energy range and of the effective dose for most energies, with the exception of the lowest simulated energy. Finally, the coefficients are combined with photon-emission data to estimate dose rates per unit activity and compared with complete radioactive-decay simulations. The coefficient-based approach provides a practical method for estimating dose quantities for radionuclides commonly handled at MEDICIS.

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