

Summary of UHDpulse 2nd stakeholder meeting

26-27 January 2023, Prague

Dosimetry for FLASH RT

34 Participants, 25 talks, 2 posters

Felix Riemer, Matthias Groß

Zeuthen, 9th February 2023 (PPS)



UHDpulse

EMPIR  

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UHDpulse 2nd Stakeholder Meeting

From the talks

Andreas Schüller (PTB); UHDPulse project: overview and current status

- PTW (dosimetry company) develops amongst others ultrathin ionization chambers → could be a commercial product soon

Sophie Heinrich (Institut Curie); review of beam parameters in FLASH

- Ruan et al. (DOI: 10.1016/j.ijrobp.2021.08.004); FLASH irradiation of mice with e⁻ linac in Oxford: Hints that radiation delivery in μ s time scale could be better than ms time scale

Faustino Gomez (U de Santiago); volume recombination in parallel-plate ionization chambers

- Experimental data: ionization chamber is 100% efficient up to 6 Gy/s with 250 μ m distance of electrodes

Celeste Fleta (Inst. Microelectronica Barcelona); innovative silicon carbide detectors

- Radiation hard; could be good for high dose rate

Jaroslav Šolc (Czech Metrology Institute)

- Open source (make data sets available): EURAMET suggests zenodo.org (Open access repository, launched by CERN in 2013)

Visit of ELI beamlines facility

Laser research centre

- European research infrastructure in the countryside near Prague (15 km)
- 4 high power femtosecond lasers (some are still under construction)
- ELI beamlines was host of the meeting, visit of facility one day before meeting was possible
- Setup for proton FLASH-RT is available

Laser	Pulse duration	Repetition rate	Peak power
L1	15 fs	1 kHz	7 TW
L2	25 fs	20 Hz	80 TW
L3	30 fs	10 Hz	1 PW
L4	150 fs	1 min ⁻¹	10 PW

