HZDR Seminar on

WEDNESDAY, March 17 at 10:00 CET

Marvin Reimold

Online proton beam dosimetry by minimally-invasive ToF

We present a minimally-invasive scintillator-based time-of-flight spectrometer as a unique tool for single-shot online beam optimization and monitoring of laser-driven proton pulses in irradiation experiments. Calibration of the device against established dosimeters (radiochromic film) in combination with Monte-Carlo simulations additionally allows dosimetric use, overcoming saturation issues with dose rate or linear energy transfer present in other devices.
To illustrate the suitability of the time-of-flight spectrometer as a beam monitor and absolute dosimeter for laser-based proton pulses, the time-of-flight data of two radiobiological irradiation campaigns performed at the implemented beamline at the DRACO PW facility are presented.