Contribution ID: **7** Type: **not specified**

Performance of a low gain avalanche detector in a medical linac and characterisation of the beam profile

Low gain avalanche detectors can measure charged particle fluences with high speed and spatial precision, and are a promising technology for radiation monitoring and dosimetry. A detector has been tested in a medical linac where single particles were observed with a time resolution of 50 ps. The integrated response is similar to a standard ionising chamber but with a spatial precision twenty times finer, and a temporal precision over 100 million times better, with the capability to measure the charge deposited by a single linac pulse. The unprecedented resolving power allows the structure of the ~3 μs linac pulses to be viewed and the 350 ps sub-pulses in the train to be observed.

Primary authors: ROYON, Christophe (The University of Kansas (US)); MCNULTY, Ronan (University College Dublin (IE)); Mr ROCK, Luke (Beacon hospital); Prof. BRENDAN, McClean (St. Luke's hospital, Dublin); RAAB, Naomi Veronika (University College Dublin (IE)); MINAFRA, Nicola (The University of Kansas (US)); Dr MCCAVANA, Pat (St. Luke's hospital); ISIDORI, Tommaso (The University of Kansas (US))

Presenter: MCNULTY, Ronan (University College Dublin (IE))