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HZB Cyclotron beyond therapy: expanding into radiation hardness and radiobiology

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The HZB cyclotron continues to provide protons for eye tumor treatment in collaboration with the Charité –Universitätsmedizin Berlin after 26 years and more than 4600 patients so far. Apart from the therapy, the provided beam is in great demand by various applications that range from radiation hardness tests to biological research. For this reason, the facility is currently extended to include two additional target stations: (i) one that will enable in-operando characterization of radioresistant perovskite-based solar cells and detectors under proton irradiation and (ii) one for in-vitro and in-vivo experiments with proton mini-beams, a novel irradiation approach in radiotherapy that promises to reduce side effects. An overview of the current plans and progress of the facility upgrade is presented here.

Speed talk:

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