

## **FLASH extraction from NIMMS helium synchrotron**

The NIMMS Helium Synchrotron is a 30 m circumference ring which provides slow extracted protons and helium ions to a proposed treatment and research facility.

For a state-of-the-art research facility, flexible extraction options are essential. These options include having high intensity pulses, and variable timescale pulses to investigate radiobiological FLASH effects.

A variety of different extraction methods are explored with the compact Helium Synchrotron optics to investigate the most promising options to be incorporated into the NIMMS TDR. Simulations demonstrate those methods on the scale of 100 ms of spill.

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