

Proposal for a multi-purpose light-ion linear accelerator for nuclear, medical, and applied research

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Abstract

A broad and unique research programme in nuclear physics, medical applications (e.g., radioisotope production), and a range of applied studies necessitates a dedicated and versatile accelerator infrastructure. The proposed linear accelerator (linac), whose layout is presented here (Figure 1), accelerates light ions to energies up to 12.5 MeV/u, and allows for a future upgrade enabling acceleration to a total energy of several hundred MeV. The presented linac concept is particularly well suited to such a diverse scientific programme, as it can deliver high-intensity, high-quality beams of a wide variety of light-ion species.

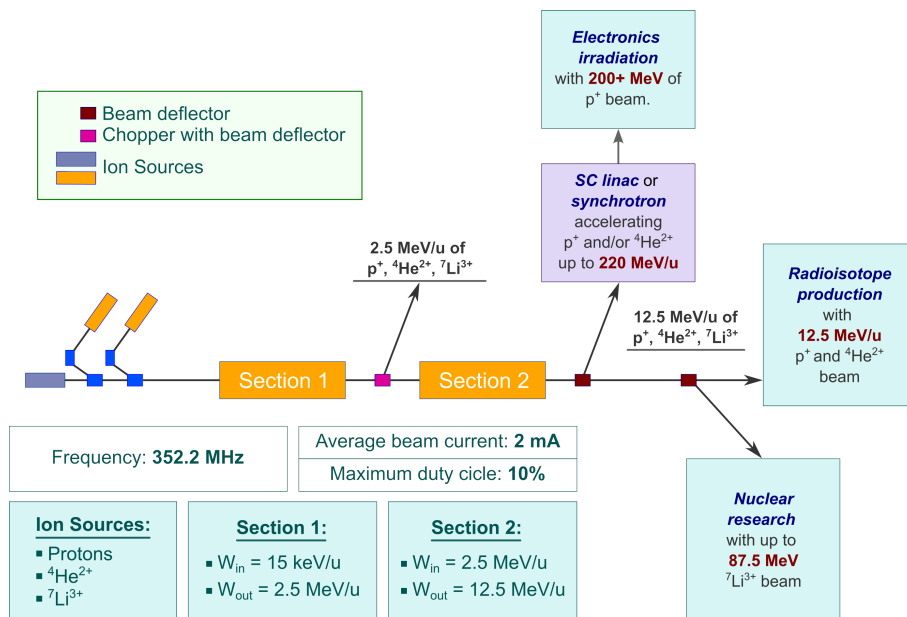


Figure 1: Layout of the proposed linear accelerator