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Investigation of longitudinal phase space distribution at MedAustron

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MedAustron is an ion therapy facility located in Wiener Neustadt, Austria, which uses third order resonant slow extraction to deliver protons and carbon ions for clinical irradiation. The beam dynamics during the slow extraction and the consequent spill characteristics depend on the longitudinal phase space distribution. Motivated by the continuously ongoing development of alternative slow extraction mechanisms, this proceeding presents investigations into the longitudinal dynamics in the MedAustron synchrotron. In particular, measurements from the orbit pick-ups and Schottky monitor signals will be compared against BLOND simulations to evaluate the longitudinal phase space distributions from injection to the end of the acceleration process.

Footnotes

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Paper preparation format

LaTeX

Region represented

Europe

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