CAS course on Basics of Accelerator Physics and Technology, 10- 14 March 2025, Ferney-Voltaire, France



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Injection and Extraction

Thursday 13 March 2025 08:45 (1 hour)

The storage and acceleration of particles in a synchrotron are typically limited to a range of energy, or magnetic rigidity, of a factor 15. Therefore, to accelerate protons from the 200 MeV Linac 4 to the 7 TeV it comes that a chain of at least 4 such synchrotrons is needed.

The injection and extraction of beams between accelerators are essential to achieve a wide range of energies and a beam specification.

This lecture presents injection and extraction techniques used for synchrotrons and across the CERN complex. A specific emphasis is placed on introducing the concepts and highlighting concrete examples of the different schemes.

Presenter: ARRUTIA, Pablo (CERN)