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Accelerator physics 1

Monday 24 July 2023 10:30 (45 minutes)

After a quick overview on applications of accelerators (HEP, light sources, medicine and industry), we present with an example how we work with accelerators in the control room and explain some basic concepts of beam dynamics in accelerators. The second main goal of these lectures is to describe the physical principles and key technologies that make possible the acceleration of charged particles up to TeV energies. We explain also the way particle colliders are built in order to bring high energy beams into collision with enough luminosity for the discovery of new particles and new physical processes. Special emphasis is made on superconducting technology for acceleration and bending of high energy beams.

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Track Classification: General Lectures