

LHC Large Hadron Collider SPS Super Proton Synchrotron PS Proton Synchrotron

AD Antiproton Decelerator CTF3 Clic Test Facility AWAKE Advanced WAKefield Experiment ISOLDE Isotope Separator OnLine Device

LEIR Low Energy Ion Ring LINAC LINear ACcelerator n-ToF Neutrons Time Of Flight HiRadMat High-Radiation to Materials

CERN'S ACCELERATOR COMPLEX

A succession of accelerators boost particles to increasingly higher energies, before injecting the beam into the next machine in the sequence. The path taken by the particles is also a journey through the history of CERN, with key stages that include the Proton Synchrotron (in operation since 1959) and the Super Proton Synchrotron, where the Nobel Prize winning discovery of the particles responsible for one of Nature's four fundamental forces was made. Today, each of these accelerators has its own research programme. CERN's main focus is particle physics — the study of the fundamental constituents of matter - but the physics programme at the laboratory is much broader, ranging from nuclear to high-energy physics, from studies of antimatter to the possible effects of cosmic rays on clouds.