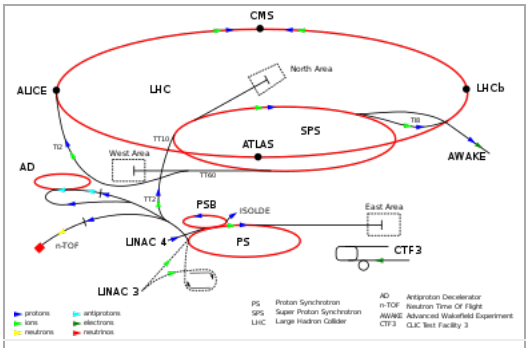
SPS	Super Proton Synchrotron

Hadron colliders

Intersecting Storage Rings	CERN, 1971–1984
Proton-Antiproton Collider (SPS)	CERN, 1981–1991
ISABELLE	BNL, cancelled in 1983
Tevatron	Fermilab, 1987–2011
Superconducting Super Collider	Cancelled in 1993
Relativistic Heavy Ion Collider	BNL, 2000–present
Large Hadron Collider	CERN, 2009–present
Future Circular Collider	Proposed

CERN accelerator complex



List of current particle accelerators at CERN

Linac 3	Accelerates ions
AD	Decelerates antiprotons
LHC	Collides protons or heavy ions
LEIR	Accelerates ions
PSB	Accelerates protons or ions

Background

The term *hadron* refers to subatomic composite particles composed of quarks held together by the strong force (as atoms and molecules are held together by the electromagnetic force).[12] The best-known hadrons are the baryons such as protons and neutrons; hadrons also include mesons such as the pion and kaon, which were discovered during cosmic ray experiments in the late 1940s and early 1950s.[13]

A *collider* is a type of a particle accelerator with two directed beams of particles. In particle physics, colliders are used as a research tool: they accelerate particles to very high kinetic energies and let them impact other particles.[1] Analysis of the byproducts of these collisions gives scientists good evidence of the structure of the subatomic world and the laws of nature governing it. Many of these byproducts are produced only by high-energy collisions, and they decay after very short periods of time. Thus many of them are hard or nearly impossible to study in other ways.[14]

Purpose

Many physicists hope that the Large Hadron Collider will help answer some of the fundamental open questions in physics, which concern the basic laws governing the interactions and forces among the elementary objects, the deep structure of space and time, and in particular the interrelation between quantum