THE ALICE EXPERIMENT AT THE CERN LHC

ALICE Collaboration

ALICE is a general-purpose heavy-ion detector designed to study the physics of strongly interacting matter and the quark-gluon plasma in nucleus-nucleus collisions at the LHC at a center of mass energy of 5.5 TeV/nucleon. It is currently under construction at CERN and will be ready for data taking at LHC turn on in 2007. It currently includes more than 900 physicists - both from nuclear and high-energy physics - from over 70 institutions in 27 countries.

ALICE consists of a central part, which measures event-by-event hadrons, electrons and photons, and a forward spectrometer to measure muons. The central part, which covers polar angles from 45^{o} to 135^{o} over the full azimuth, is embedded in the large L3 solenoid magnet. It consists of an inner tracking system (ITS) of high-resolution silicon tracking detectors, a cylindrical TPC, three particle identification arrays of time-of-flight (TOF), transition radiation (TRD) and Cerenkov counters (HMPID) and a single-arm electromagnetic calorimeter (PHOS). The forward muon arm (2 - 9^{o}) consists of a complex arrangement of absorbers, a large dipole magnet, and 14 planes of tracking and triggering chambers. Several smaller trigger detectors (ZDC, PMD, FMD) are located at small angles.

This contribution will describe the ALICE detector, including recent results on a number of detector R&D issues, the status of detector construction, and some examples of the physics performance.