



Particle Physics at Discovery's Horizon

US Remote Operations and Monitoring

The Remote Operations Center at Fermilab and US ATLAS Remote Monitoring Rooms around the country keep US scientists, students and technicians vitally connected to activities at the Large Hadron Collider at CERN in Geneva, Switzerland.

Remote Operations Center at Fermilab

The ROC at Fermi National Accelerator Laboratory in Batavia, Illinois remotely supports the CMS experiment located in Cessy, France. The ROC allows Fermilab physicists to help operate the CMS detector and monitor the LHC accelerator. Software developed at Fermilab and CERN coupled with fast data transfer between CERN and the US CMS computing center at Fermilab make remote operations possible. Real-time discussion between US collaborators and the CERN-based operators 4,000 miles away assist the seamless round-the-clock operation of the CMS experiment.

Recent ROC Activity

US CMS collaborators have been using the ROC at Fermilab to manage night shifts at CERN during test runs of the detector. Such tests enable collaborators to test the detector and better understand detector problems they may encounter when collisions begin in the center of CMS.

ROC Stats

Role: Monitoring and operating the CMS Detector; monitoring the LHC accelerator

Location: Fermilab, Batavia, IL

Inaugurated: October 22, 2007

CMS shifts scheduled: Two eight-hour shifts every day from 8:00 a.m. to midnight

Work stations: 8 each with multiple flat-screen monitors

Data transfer rate: 300 megabytes per second from CERN



Image Credit Fermilab

US ATLAS Remote Monitoring Rooms

Role: Monitoring and communications for the ATLAS experiment

Location: Brookhaven National Laboratory, Upton, NY and several US ATLAS institutions across the country

About 500 US physicists and students participate in the 2,500-member ATLAS experiment. The Remote Monitoring Rooms enhance communication among US ATLAS members and between them and their colleagues at CERN in Geneva, Switzerland.

At the Remote Monitoring Room at Brookhaven National Laboratory, US scientists monitor data from the ATLAS detector as they are collected in Switzerland and identify possible problems with the detector. Scientists also communicate with colleagues at LHC computing centers across the country and around the world.