



Particle Physics at Discovery's Horizon

## Remote Operations Center at Fermilab



Image Credit Fermilab

### ROC at Fermilab

The Remote Operations Center at Fermi National Accelerator Laboratory in Batavia, Illinois keeps more than 900 US scientists, students and technicians vitally connected to Large Hadron Collider operations at CERN in Geneva, Switzerland.

The ROC at Fermilab remotely supports the CMS experiment located near Geneva in Cessy, France. The ROC allows Fermilab physicists to help operate the CMS detector and monitor the LHC accelerator.

Customized software developed in collaboration with Fermilab 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 Activities

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