CMS/LHC Update
All Experimenters Meeting

Jacob Anderson
Fermilab - CMS Center

Outline
- LHC status
- CMS status
The machine is cold.

Successful injection tests in both directions over the weekend Oct. 23 through Alice to point 3 and through LHCb to point 7.

Beam on collimator events expected in CMS during weekend Nov. 7 and 8.
2 brief collision periods this year.
Grand plan for LHC operation

900 GeV

- 2x2
- 5e10
- 10-11m

Dominated by beam commissioning

7 TeV

- Crossing angle
- Turn on $\alpha_{ext}$ >0, then move on to 50ns bunch trains

10 TeV

- Heavy Ions
- Few e10
- 90m IPS ?

Dominated by physics

* exp magnet ON means at full nominal field (as for 14 TeV)
CMS activities

- Using the new cosmic data
  - detector alignment
  - detector performance
- Other activities
  - Cooling tower maintenance
  - Data transfer and analysis exercises
  - Final preparations
CMS October exercise

- Test the CMS computing and data models as realistically as possible.
  - Skim MC to make datasets to distribute to Tier 2 sites.
  - Test calibration and analysis workflows.
  - Stress test grid job submission and data transfer.

- Started out with a few hiccups, but they were quickly resolved and the test was overall a success.

T2 jobs: MC, Analysis

Start Oct. exercise
CMS status

• CMS has completed a long cosmic data taking run.
  ▪ over 300M cosmic triggers.
  ▪ sustained high trigger rates.
  ▪ sustained 24 x 7 operation.

• CMS is closed, powered, and subsystems are ready for beam.
CMS is looking forward

- CMS is looking forward to beginning collisions, but also what the future holds.
- Last week there was an upgrade workshop here at Fermilab.
- At design luminosity of $10^{34}$, the detector is good. Upgrade goes to $10^{35}$.
- Upgrade development is already underway.

Upgrades planned in:
- Calorimetry
- Tracking
- Trigger
- Muons
Bring On the Beam!