## The CMS Offline condition database software system

Monday 23 March 2009 14:00 (20 minutes)

Non-event data describing detector conditions change with time and come from different data sources. They are accessible by physicists within the offline event-processing applications for precise calibration of reconstructed data as well as for data-quality control purposes.

Over the past three years CMS has developed and deployed a software system managing such data. Object-relational mapping and the relational abstraction layer of the LHC persistency framework are the foundation; the offline condition framework updates and delivers C++ data objects according to their validity. A high-level tag versioning system allows production managers to organize data in hierarchical view. A scripting API in python, command-line tools and a web service serve physicists in daily work. A mini-framework is available for handling data coming from external sources. Efficient data distribution over the worldwide network is guaranteed by a system of hierarchical web caches.

The system has been tested and used in all major productions, test-beams and cosmic runs.

**Primary authors:** Dr GOVI, Giacomo (Northeastern University); Dr INNOCENTE, Vincenzo (CERN); Dr XIE, Zhen (Princeton University)

Presenter: Dr XIE, Zhen (Princeton University)

Session Classification: Software Components, Tools and Databases

Track Classification: Software Components, Tools and Databases