

Event Selection Services in ATLAS

Monday 23 March 2009 16:30 (20 minutes)

ATLAS has developed and deployed event-level selection services based upon event metadata records ("tags") and supporting file and database technology.

These services allow physicists to extract events that satisfy their selection predicates from any stage of data processing and use them as input to later analyses.

One component of these services is a web-based Event-Level Selection Service Interface (ELSSI).

ELSSI supports event selection by integrating run-level metadata, luminosity-block-level metadata (e.g., detector status and quality information), and event-by-event information (e.g., triggers passed and physics content). The list of events that pass the physicist's cuts is returned in a form that can be used directly as input to local or distributed analysis; indeed, it is possible to submit a skimming job directly from the ELSSI interface using grid proxy credential delegation. Beyond this, ELSSI allows physicists who may or may not be interested

in event-level selections to explore ATLAS event metadata as a means to understand, qualitatively and quantitatively,

the distributional characteristics of ATLAS data: to see the highest missing ET events or the events with the most

leptons, to count how many events passed a given set of triggers, or to find events that failed a given trigger but

nonetheless look relevant to an analysis based upon the results of offline reconstruction, and more.

This talk provides an overview of ATLAS event-level selection services, with an emphasis upon the interactive Event-Level Selection Service Interface.

Authors: Dr MALON, David (Argonne National Laboratory); Dr GALLAS, Elizabeth (University of Oxford); VIEGAS, Florbela (CERN); Ms MCGLONE, Helen (University of Glasgow); Dr CRANSHAW, Jack (Argonne National Laboratory); Dr HRIVNAC, Julius (LAL, Orsay); Dr MAMBELLI, Marco (University of Chicago); Dr KENYON, Michael (University of Glasgow); Dr ZHANG, Qizhi (Argonne National Laboratory)

Presenters: Dr CRANSHAW, Jack (Argonne National Laboratory); Dr ZHANG, Qizhi (Argonne National Laboratory)

Session Classification: Software Components, Tools and Databases

Track Classification: Software Components, Tools and Databases