Contribution ID: **29** Type: **Short Talk**

Understanding ATLAS infrastructure behaviour with an Expert System

Tuesday, 18 May 2021 11:16 (13 minutes)

The ATLAS detector requires a huge infrastructure consisting of numerous interconnected systems forming a complex mesh which requires constant maintenance and upgrades. The ATLAS Technical Coordination Expert System provides, by the means of a user interface, a quick and deep understanding of the infrastructure, which helps to plan interventions by foreseeing unexpected consequences, and to understand complex events when time is crucial in the ATLAS control room.
It is an object-oriented expert system based on the knowledge composed of inference rules and information from diverse domains such as detector control and safety systems, gas, water, cooling, ventilation, cryogenics, and electricity distribution.

This paper discusses the latest developments in the inference engine and the implementation of the most probable cause algorithm based on them. One example from the annual maintenance of the 15°C water circuit chillers is discussed.

Primary authors: ASENSI TORTAJADA, Ignacio (Univ. of Valencia and CSIC (ES)); SOLANS SANCHEZ, Carlos (CERN); Dr RUMMLER, Andre (CERN); URIBE, Gustavo (Universidad Antonio Narino (CO)); TORRES PAIS, Jose (Univ. of Valencia and CSIC (ES))

Presenter: ASENSI TORTAJADA, Ignacio (Univ. of Valencia and CSIC (ES))

Session Classification: Online

Track Classification: Online Computing