

# Detector Control System for the AFP detector in ATLAS experiment at CERN

E. Banaś, S. Czekierda, Z. Hajduk, J. Olszowska – IFJ PAN, Cracow, Poland;

D. Caforio – IEAP - CTU, Prague, Czech Republic; L. Seabra – LIP, Lisbon, Portugal; P. Šícho – ASCR Prague, Czech Republic

## The ATLAS Forward Proton (AFP) detector upgrade project:

- two Roman Pot stations located in the LHC tunnel on each side of the ATLAS detector, at 205 and 217 m from the Interaction Point, will contain 3D Silicon Trackers and Time-of-Flight detector.
- This year during technical stop, Roman Pots on one side with 3D Silicon Trackers were installed and commissioned.

## Detector Control System is responsible for coherent and safe operation of the AFP detector. It was built using:

- Industrial SCADA Siemens WinCCOA 3.11
- CERN JCOP and ATLAS Framework components, rules and guidelines
- CERN FSM (Finite State Machine) for hierarchy control and Graphic User Interfaces
- Communication Protocols: OPC servers, DIM and WinCCOA Native Drivers

## AFP hardware:

- Large variety of subsystems: pot movement and positioning system, secondary vacuum, cooling, high and low voltage supplies, temperature monitoring and hardware interlock.
- Because of radiation and maintainability is scattered between the tunnel and ATLAS Counting Room, with 330 m distance

## AFP DCS Status:

- First version installed in January 2016, operational during the installation, commissioning and first data taking
- Integrated with ATLAS in June 2016
- It is growing together with the detector apparatus

