ATLAS TOMOGRAPH FOR THE MUON CHAMBER TESTING CONTROLLED BY LABVIEW FOR INDUSTRIAL AUTOMATION - BRIDGEVIEW

C. Dechelette, CERN; S. Zanetti, National Instruments

The ATLAS LHC experiment will use Muon Chambers around the central detector for precise measurements of muon trajectories. A special apparatus, named tomograph, has been installed at CERN to test the geometrical and electrical characteristics of each muon chamber, prior to installation. In this paper, we will discuss the implementation of the tomograph control with the software package LabVIEW for Industrial Automation - BridgeVIEW. The software flexibility allowed to integrate in the same environment different I/Os. The application includes the VME-based data acquisition system for the scintillator/photomultiplier signals, the chamber temperature, the chariots position and the clean room parameters (temperature, pressure, humidity), the equipment control to drive the chamber leveling and the chariots motors, as well as the PLC-based system for the personnel and material safety. Measurement data are sent via ethernet to a central database and to remote monitoring stations. Alarms and some operation steps can be forwarded to GSM phones.