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The DAQ system for the Fluorescence Detectors of the Pierre Auger Observatory

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The Pierre Auger Observatory currently under construction in Argentina will investigate extensive air showers at energies above 10^18 eV. It consists of a ground array of 1600 Cherenkov water detectors and 24 fluorescence telescopes to discover the nature and origin of cosmic rays at these ultra-high energies.

The ground array is overlooked by 4 different fluorescence buildings which are equipped with 6 telescopes each. An independent local data acquisition (DAQ) is running in each building to readout 480 channels per telescope. In addition, a central DAQ merges data coming from the water detectors and all fluorescence buildings.

The system architecture follows the object oriented paradigm and has been implemented using several of the most widespread open source tools for interprocess communication, data storage and user interfaces.

Each local DAQ is connected with further sub-systems for calibration, for monitoring of atmospheric parameters and slow control. The latter is responsible for general safety functions and the experiment control.

After a prototype phase to validate the system concept the Observatory is taking data in the final setup since September 2003. The data taking will continue during the construction phase and the integration of all sub-systems.

We present the design and the present status of the system currently running in two different buildings with a total of 8 telescopes installed.

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