REPORT

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INTRODUCTION

The Pierre Auger Observatory has been conceived to measure the flux, arrival direction distribution and mass composition of cosmic rays from $10^{18}\ eV$ to the very highest energies. A unique feature of the Auger observatory is its "hybrid" nature,where showers are observed by surface and fluorescence detectors.

The fluorescence detectors (FD) are distributed in 4 stations around the perimeter of the surface detector (SD) array, and view the atmosphere above the array on moon-less or partially in moon-lit nights. Details of the fluorescence detectors are given in [1].

At the present time three of the four fluorescence site have been completed and are in operation. Two of them Los Leones anda Coihueco have been collecting data since January 2004, with Los Morados beginning data taking in March 2005. The fourth site at Loma Amarilla will be in operation in the second half of 2006.

A single fluorescence site contains six identical fluorescence telescopes, each located in independent bays, overlooking separate sky regions. Fluorescence light enters to the telescope through a $1.10\,m$ radius diaphragm, and light is collected by a $3.5\,m \times 3.5\,m$ spherical mirror and focused onto a photomultiplier (PMT) camera. The camera contains 440 hexagonal PMTs ($45\,mm$ diameter).

Work in the Shift FD

The FD data was taking shift for 17 nights, since june 17 until july 4. During all this time FD started taking data at 18 p.m and end at 7 a.m of the next day. A minimum of two physicists were necessary for each measured night.

In the the data taking night, we had to report every ocurrence, like dead pixels of the cameras, during the measuremente period in the corresponding FD e-log file. In the next page I show a summary of the executed commands in the terminals, which controls the FD taking data. The

word eyename refers to the different fluorescence detectors in operation: Los Leones, Coihueco and Los Morados. For more information see the FD web page [2].

* BEFORE RUN
  - open runtime page: www.auger.org.ar/FD/month1_month2_measuretime.txt
  - *./check_proc.csh* for each eye
  - *de_test a* for each eye, report dead pixels.
  - startup for each eye
  - *<status.cmd* for each eye
  - SlowControl to calibration mode for all bays for each eye
  - wait $\sim$ 1 hour
  - *bgrecord 5 eyename__YYMMDD_a*for each eye
  - stop bgrecord with "q" after 50 samples
  - open EyeRunControl program for each eye
  - attach bays in Menu/Configure/EyeConfiguration for each eye
  - Menu/Run/Start Calibration A for each eye
  - wait for calibration to finish (50 samples), then Menu/Run/Stop RUN
  - *cala_analysis* $< Cameras >< RunNum >$ for each eye
  - check the weather and decide about data-taking
  - start CLF, then df then pon then init then run
  - Menu/Special/Select Config/DAQ for each eye
  - SlowControl to Run mode for each eye AT START TIME
  - Menu/Run/Start DAQ
  - *bgrecord 30 run_eyename_YYMMDD_a* for each eye
  - *./getData.csh*
  - open LOCAL FDEyeDisplay for each eye
  - File/Open/ $\rightarrow$ TodayEyes/data/run_e1 [e2,e3] for each eye
  - start T3Monitor
  - qmserver for each eye

- open qmdisplay for each eye

* DURING RUN
  - check half second CLF shots in T3Monitor for each eye
  - check quarter second shots for each eye running
  - close and open shutters according to the moonfilter

* AFTER THE RUN
  - Menu/Run/Stop
  - SlowControl to Calibration mode for all bays for each eye
  - *bgrecord 5 eyename_YYMMDD_b* for each eye
  - attach bays in Menu/Configure/EyeConfiguration for each eye
  - Menu/Run/Start Calibration A for each eye (50 samples)
  - then Menu/Run/Stop Run
  - *cala_analysis Cameras RunNum*
  - Menu/File/Terminate DAQ for each eye
  - SlowControl to Standby mode for all bays for each eye
  - to stop CLF
  - upload logfile to Auger - Wiki/FD/E-log/Make Entry

Work in the SD

In my stay in the Pierre Auger Obsevatory, I contribute in the development of the data base that involves the registers of batteries history, that are located in the tanks as well as that were used in the SD array.

Bibliography

[1] J. Abraham et al. *Nucl.Inst.Meth.A.*,523:50, 2004.

[2] http://wiki.auger.org.ar/doku.php?id=fd:main