

***REPORT of the WORK DEVELOPED at Universidad Nacional
de La Plata***

The work done in the first month (November 2005) of the HELEN fellowship can be divided in:

- Work with La Plata Auger Group.
- Collaboration in the shift of the Surface Detector of the Pierre Auger Observatory currently under construction in Malargue, Argentina.

During the first week I worked in our research plan in asymmetries in extensive air showers (EAS) produced by cosmic rays. We analysed Monte Carlo EAS generated with AIRES, investigating the possibility of using parameters related with this asymmetry for studies of mass composition of cosmic rays. In this direction, we focused our analysis on particle arrival time distributions as well as slope of the lateral distributions of secondaries at ground.

I also attended the Collaboration Meeting and presented the results of our work in order to discuss with other members of the Collaboration the problem of mass composition of cosmic rays.

The rest of the month was used to collaborate in the shift of Surface detector. The work done during the shift was:

- Check the database of the water Cerenkov detectors (WCD).
- Measure the positions of WCD in the array using the differential GPS technique, extremely useful for the determination of the geometry of arrival particles.
- Help the local staff in checking the status of tank's batteries.