

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

The work done during the HELEN Fellowship can be divided in two periods:

The first one corresponds to November 2005 and can be summarised in:

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

For further information check the mid-term report.

The second period of the Hellen Fellowship corresponds from mid March to mid April 2006. During this month I focused in the data analysis. Together with members of the Auger group at UNLP we finished a preliminary study of the time distributions using Monte Carlo EAS and the relation with the mass of the particle which originated the shower.

I attended the Auger Collaboration Meeting (March 15-19, 2006) and I presented these results.

After several comments and discussions with other members of the collaboration we analysed the effect of the size of the signal in the surface detectors, which is an important source of systematic errors in the determination of the mass using these asymmetries.

With the members of the Auger group at UNLP, I started a new work to study the lateral distribution function, in particular the shape of this function, in inclined showers.

I would like to thank Prof. Maria Teresa Dova and the rest of the Auger group at UNLP for all the fruitfully discussions and suggestions and for all the support given.

Finally I also would like to remark the great opportunity that the Helen Fellowship have provided me to go further in my PhD.