

## **A MONTE CARLO SIMULATION OF THE COSMIC RAY INTERACTIONS WITH THE ATMOSPHERE**

**P.Zuccon** (1) and B.Bertucci (1)

(1) INFN and University of Perugia,I-06124 Italy.

Substantial fluxes of protons and leptons with energies below the geomagnetic cutoff have been accurately measured by the AMS experiment at altitudes of 370-390 Km, in the latitude interval  $\pm 51.7^\circ$ . The production mechanisms of these trapped fluxes are here investigated in detail by means of a Monte Carlo simulation. All known processes involved in the interaction of the cosmic rays with the atmosphere (magnetic and density effects, electromagnetic and nuclear processes) are included in this global simulation. The results are presented and compared with the experimental data, showing a good agreement in the different physical distributions.