

## Electron plus positron spectrum in the energy range 50 – 1500 GeV from the PAMELA data.

*Tuesday, 11 October 2016 13:45 (15)*

International space experiment PAMELA was started in 2006 and finished its work in 2016. The main aims of the experiment were the study of the spectra of cosmic rays and of their elemental composition, including the spectra of antiprotons and positrons in a wide energy range. The objective of this work is to develop a methodology for the selection of electrons (including positrons) with energies above 50 GeV and to obtain the summary spectrum of electrons and positrons in a wide energy range 50 – 1200 GeV. In our analyses we have used the data from three detectors - magnetic spectrometer, the calorimeter and neutron detector. We developed the simple method for separation of electrons and positrons from the total flux of charged particles entering the aperture of the spectrometer, and the determination of the energy of these particles. We have got the spectrum of electrons and positrons in the energy range of 50 to 1200 GeV. The geometrical factor of the magnetic spectrometer, the calorimeter and neutron detector is 21 cm<sup>2</sup>•ster. To extend energy range and increase the statistics at high energies, we developed a methodology of the selection of electrons according only of the calorimeter and neutron detector (in this case the geometric factor is increased more than 20 times). The events when the axis of the cascade passes through the top and bottom planes of the calorimeter were chosen. The preliminary results for this case are presented.

**Primary author(s) :** Mr. KVASHNIN, Alexander (LPI)

**Co-author(s) :** Mr. KVASHNIN, Aleksandr (LPI); Mr. STOZHKOVA, Yury (LPI)

**Presenter(s) :** Mr. KVASHNIN, Alexander (LPI)

**Session Classification :** Cosmic rays - parallel III

**Track Classification :** Cosmic rays