

POSITIVE CHARGE EXCESS OF LEPTONS AT VERY HIGH ALTITUDE

R. Attallah (1), J.N. Capdevielle (2) and T. Djemil (1)

(1) Laboratoire de Physique des Rayonnements, Université Badji Mokhtar, B.P. 12, 23000 Annaba, Algeria, (2) Physique Corpusculaire et Cosmologie, Collège de France, 11 place Marcelin Berthelot, F-75231 Paris Cedex 05, France.

The positive charge excess of muons is simulated at different altitudes for the different balloon experiments such as CAPRICE, HEAT, MASS, IMAX . . . The enhancement of the positive charge observed near 3-5 g/cm² is compared to the simulations carried out with CORSIKA code. We have taken into account the isospin conservation and the charge exchange mechanisms while assuming a primary spectrum dominated by protons (for both quiet and active sun periods). The contamination by positive pions and protons is investigated. We have also used CORSIKA for simulations in the shuttle environment to point out some correlations with the important excess of positive electrons recorded by the AMS experiment near 400 km altitude.