MAGNETICALLY TRAPPED LEPTONS WITH E>200 MEV IN NEAR EARTH BELTS WITH THE AMS EXPERIMENT

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Accurate measurements of electron and positron fluxes at energies above 200 MeV have been performed by the AMS instrument at altitudes of 370-390 Km and in the latitude interval $\pm 51.7^o$. We present an original analysis of the AMS data, focussed on the study of the magnetically trapped component of these fluxes. As a result, the flux maps as a function of the magnetic variables (L,α_o) are determined in the interval $0.95 < L < 3$, $0^o < \alpha_o < 90^o$ for electrons with E<10 GeV and positrons with E<3 GeV. The results are compared with existing data at lower energies and in similar (L,α_o) range. The properties of the trapped particles are also investigated in terms of their residence times and geographical origin by means of a tracing technique. The resulting distributions are discussed and related to the characteristics of the magnetic shells encountered by AMS.