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2. CRs at Earth and planets (GEO)

DYNAMICS OF LOWER BOUNDARY OF PROTON RADIATION BELT WITH PAMELA AND ARINA EXPERIMENTS DURING 2006 – 2014 YEAR.

Malakhov, Vitaly¹, Koldashov, Sergey¹, Mayorov, Andrey¹, Mayorova, Marina¹, Mikhailov, Vladimir¹, Aleksandrin, Sergey¹, Sharonova, Nadezhda¹ and Batischev, Alexey¹

¹NRNU MEPhI

PAMELA and ARINA experiments onboard satellite RESURS-DK1 are carried out since 2006 up to now. Main goal of PAMELA instrument is measurements of high energy antiparticles in cosmic rays while the ARINA instrument is intended studying high-energy charged particle bursts in the magnetosphere. And also both these experiments have possibility to study trapped particles in the inner radiation belt. Complex of these two instruments covers proton energy range from 30 MeV up to energy trapping limit (~ 2 GeV). Continuous measurements with PAMELA and ARINA include falling and rising phases of 23/24 solar cycles. It is important because existing empirical radiation belt models do not able to calculate trapped particle fluxes with taking into account solar activity changing, e.g. widely using AP-8 model allows to evaluate proton fluxes just in two cases: for minimum or maximum of a solar cycle. In this report we present temporal profile of proton fluxes in the inner zone of the radiation belt ($1.11 \leq L \leq 1.20$, $0.18 \leq B \leq 0.22$ Gs). Dependence of proton fluxes on level of solar activity (sunspot number) was measured in various phases of 23/24 solar cycle. At that it was shown that proton fluxes of energies ≥ 30 MeV at the solar minimum several times greater than at the solar maximum.