JOINT ACCELERATION OF RELATIVISTIC ELECTRONS AND SOLAR PROTON IN THE INNER MAGNETOSPHERE DURING RECOVERY PHASE OF THE STRONG MAGNETIC STORMS

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Energetic particle dynamics during three strong magnetic storms (29-31.10.2003, 22-29.07.2004 and 7-11.11. 2004) were analyzed using particle spectrometers data on board of low-altitude satellites CORONAS-F and SERVIS-1. All three magnetic disturbances consists on a chain of 2-3 storms: because of that transition from distorted to normal magnetosphere configuration was observed several times in all events. As a consequence a chain of particle acceleration and losses was registered. We found that for the solar proton trapping and both proton and electron acceleration recovery phase is most effective and that protons and electrons are accelerated simultaneously presumably by the same mechanism of inward radial diffusion with conservation of the magnetic moment.