

ON THE DETERMINATION OF THE γ -RAY CONTRIBUTION IN THE 3-10 MEV KET ELECTRON CHANNEL ALONG THE ULYSSES TRAJECTORY

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Since the first Jovian fly-by of Pioneer 10 in 1973, it has been established that Jupiter's magnetosphere is a powerful accelerator of electrons up to several tens of MeV, which are released into interplanetary space. Measurements from Pioneer, Voyager and from spacecraft near Earth indicate that the Jovian electron flux exceeds the galactic one close to the ecliptic plane in the inner heliosphere. Galactic cosmic ray electrons may become important at high heliographic latitudes. Since Jupiter can be regarded as a "point" source, measurements of Jovian electrons are ideally suited to study the transport of particles in three dimensions in the inner heliosphere. Different scenarii, varying the local interstellar spectrum as well as the propagation parameters show the need for a higher precision of Ulysses measurements. In this presentation we analyze data from the Cosmic ray and Solar Particle INvestigation Kiel Electron Telescope (COSPIN/KET) on board of Ulysses with a special emphasis on the background caused by γ -rays generated by energetic cosmic rays interacting with the spacecraft matter. We will be able to determine the background contribution more precisely than before by using 1 AU measurements from IMP 8 and the SOHO spacecraft, model calculations describing these observations, and Ulysses data during the ecliptic crossing in February 1995, when the spacecraft was oppositely located to Earth close to 1 AU.