Geophysical Research Abstracts, Vol. 7, 06983, 2005
SRef-ID: 1607-7962/gra/EGU05-A-06983

Measurements of ^{3}He Enhancement in High-Energy Solar Events by ERNE/HED

J. Laivola and J. Torsti

Space Research Laboratory / Department of Physics, University of Turku, Finland
(jarno.laivola@srl.utu.fi / Phone: +358 333 6224)

Solar energetic particle (SEP) observations with High Energy Detector (HED) of the ERNE instrument (*Energetic Relativistic Nuclei and Electron experiment*) on board the Solar and Heliospheric Observatory (SOHO) enable the measurements of helium isotope intensities in the high energy range, > 15 MeV nucleon^{-1}, with good statistical resolution.
Results of the solely empirical test concerning the quality of particle identification and isotope resolution of ERNE/HED are presented. By comparing the signals in single detector layer with the summed up signals in the preceding layers the separation of particle populations representing different isotopes could have been studied. Present particle identification matches well with these empirical results.
The overview of ^{3}He enhancement measurements by ERNE/HED for the period from 8 February 1999 to 7 December 2000 is reported. The analysis was conducted in energy range 15 - 95 MeV nucleon^{-1}. The periods with ^{3}He enhancement were studied stastically. The distributions of the ^{3}He/^{4}He -ratios in each energy channels were calculated and the association of ^{3}He enhancement in more abundant ^{4}He event periods was studied. The results of ERNE/HED measurements for energy-dependency of the ^{3}He enhancement are reported.