

**Estimate of ion absolute fluxes in the International Space Station (USLab):
ALTEA measurements in 2006-7 and during the December 2006 SPE,
results of latest analyses.**

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ALTEA (Anomalous Long Term Effects on Astronauts) is a multidisciplinary project aimed at studying the cosmic rays and their effects on the astronauts during space missions, with a focus on the Light Flashes phenomenon. The ALTEA-Space is the main space experiment of the ALTEA project and one of its goals is the characterization of the radiation environment inside the International Space Station (ISS). It includes a stack of six silicon telescope particle detectors arranged in a 3D structure, capable to determine the energy loss and the trajectory of the cosmic radiation. ALTEA-Space is on board the ISS since July 2006 and collected data continuously between August 2006 and July 2007.

We present here the first analysis of the whole dataset, giving a first assessment of the absolute radiation fluxes measured in the ISS.

We identified ions from Boron to Iron. Absolute fluxes for all discriminated elements are presented.

Solar Particles Events (SPEs) represent one of the major hazards in space missions, the characterization of radiation environment inside the International Space Station during a SPE plays an important role in the assessment of the radiation risk. ALTEA-Space experiment has recorded the most recent 2006-December Solar Particle Event. We present here the measurement's results and the abundances of the various nuclear species, during the SPE (as compared to normal conditions).

A comparison with external data from other available instruments is presented in the energy region where the devices are sensitive.