



Radiation investigations with Liulin-5 charged particle telescope on the International Space Station: review of results for years 2007-2015

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The radiation field around the Earth is complex, composed of galactic cosmic rays, trapped particles of the Earth's radiation belts, solar energetic particles, albedo particles from the Earth's atmosphere and secondary radiation produced in the space vehicle shielding materials around the biological objects. Dose characteristics in near Earth and space radiation environment also depend on many other parameters such as the orbit parameters, solar cycle phase and current helio-and geophysical conditions. Since June 2007 till 2015 the Liulin-5 charged particle telescope has been observing the radiation characteristics in two different modules of the International Space Station (ISS). In the period from 2007 to 2009 measurements were conducted in the spherical tissue-equivalent phantom of MATROSHKA-R project located in the PIRS module of ISS. In the period from 2012 to 2015 measurements were conducted in and outside the phantom located in the Small Research Module of ISS. In this presentation attention is drawn to the obtained results for the dose rates, particle fluxes and dose equivalent rates in and outside the phantom from the galactic cosmic rays, trapped protons and solar energetic particle events which occurred in that period.