



Solar modulation of the neutron component of the radiation background observed simultaneously in different space missions

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We have studied variability of neutron component of radiation environment at Earth, Moon and Mars vicinities over a long period of time produced by the solar modulation of the GCR flux in the 23rd and 24th solar cycles. The global behavior of the neutron flux is in relatively good agreement with different observations performed simultaneously onboard various space missions, including instruments HEND onboard Mars Odyssey orbiter, BTN onboard International Space Station and LEND onboard Lunar Reconnaissance Orbiter as well as with the modeled behavior of the GCR flux derived from a global network of neutron monitors on the Earth. The local differences in the time history and character of different observations have been also evaluated. The joint analysis of different data sets, where some of them are gathered far away from the Earth, reveals a multi-dimensional view and new patterns of the solar modulation of GCRs within current unusual solar cycle.