

Simulation of Solar Neutron Flux in the Earth's Atmosphere

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We studied the evolution of the solar neutron flux in the Earth's atmosphere. Simulations based on the CORSIKA and FLUKA codes were performed for this purpose. We analyzed the neutron (n) emission of three flares (X17, M3.9 and X1.3), observed by the Solar Neutron Telescope at Sierra Negra (SNT-SN) and the FIB scintillator of the Space Environment Data Acquisition-Attached Payload (FIB SEDA-AP) on board of the International Space Station (ISS). As Solar Cosmic Rays (SCR), solar neutrons are able to produce air showers in the Earth's atmosphere; we focused our analysis on the hadronic component to study the secondary n into the total n flux. Our results are consistent with observational data.

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Collaboration

other Collaboration

Subcategory

Experimental Methods & Instrumentation

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