

Observation of cosmic rays on the Lomnicki stit

Tuesday, 4 June 2024 14:30 (1 hour)

In our contribution we will explore the achievements of our extensive research using the neutron monitor at the Lomnicky Stit Observatory in Slovakia. We'll delve into the principles of neutron monitors, which detect secondary cosmic rays produced by interactions between high-energy particles from space and Earth's atmosphere.

By continuously monitoring these secondary neutrons, we gain valuable insights into space weather events. Solar flares and coronal mass ejections (CMEs) emit energetic particles that can disrupt Earth's magnetosphere and atmosphere. These disruptions, in turn, affect satellite operations, power grids, and communication systems.

Our long-term data from the Lomnicky Stit neutron monitor allows us to:

Track solar activity and identify potential space weather threats.

Improve our understanding of cosmic ray flux variations.

Develop and validate models for forecasting space weather events.

Our presentation will showcase the valuable contributions of the Lomnicky Stit neutron monitor to space weather research and its role in safeguarding our technological infrastructure from the impacts of solar storms.

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Session Classification: Observations of the Cosmos