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Neutron emission in TGEs

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We analyze the neutron fluxes correlated with thunderstorm activity recently measured at mountain altitudes by Aragats and other groups. We perform simulations of the photonuclear reactions of gamma rays born in the electron-gamma ray avalanches and calculate the expected count rates of the neutron detectors. Our analysis supports the Tibet and Aragats group's conclusions on the photonuclear nature of thunderstorm-correlated neutrons (directly in the neutron monitor and in the atmosphere). The photonuclear reactions of the gamma rays born in the electron-photon avalanches in the thunderstorm atmospheres interacting with the air atoms and with lead producer of a neutron monitor can provide neutron yield compatible with additional count of neutron monitors registered during thunderstorm ground enhancements.

Presenter: Dr VANYAN, Levon (Yerevan Physics Institute)