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## SEVAN European particle detector network for the atmospheric, solar and space weather studies

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Experiments during recent years with SEVAN detectors on mountain tops in Armenia, Slovakia, and Bulgaria reveal the broad potential of SEVAN detectors; The SEVAN detector on Lomnický štít (Slovakia) measured the largest thunderstorm ground enhancements (TGE), with particle fluxes exceeding the background 100-times. With muon and gamma ray fluxes, the maximum values of the potential difference in thunderclouds were measured, equal to 350 MV at Mt. Aragats, and 500 MV at the sharp peak of Lomnický štít. In Nov 2019, SEVAN detectors were installed at DESY (Hamburg and Zeuthen sites). Fluxes of electrons, photons, and muons and weather parameters are continuously monitored at all sites (at different latitudes, longitudes, and altitudes). To fully exploit the scientific potential of the SEVAN detectors, in 2023 is planned to install a new detector in the Umwelt-Forschungs-Station (UFS, Schneefernerhaus, 2650 m asl) near the top of the Zugspitze (2962 m), a site with a long history of atmospheric research. The new SEVAN module will be compact (SEVAN-light), and will enable the energy spectra measurements in the range from 0.3 to 50 MeV, allowing unambiguously separating Radon progeny gamma radiation from runaway electron-photon avalanches.