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## Small Extensive Air Shower detector array - measurements and estimation

Friday, February 21, 2025 5:30 PM (5 minutes)

CREDO collaboration studies cosmic-ray related phenomena on a large scale, searching for so called Cosmic-Ray Ensembles (CRE) or other unusual correlations and anomalies of non local nature. Such studies require data on Extensive Air Showers (EAS) and flux of secondary cosmic-ray particles that covers large areas. To perform such measurements, a large network of inexpensive detectors working continuously is necessary. This work presents a prototype of a station that can be used in such network. It comprises several small ( $5\text{ cm} \times 5\text{ cm} \times 1\text{ cm}$ ) scintillator detectors connected in a flat coincidence circuit, which makes it a desktop-size device. Such station is designed to work for months or even years without the need for human intervention, as it can send collected data directly to the database through internet. Costs of construction of a complete device ranges from \$1000 to \ 2000 depending on the number of detectors used. Results of measurements using the first prototype are compared with estimation studies.

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