



ID contributo: 36

Tipo: non specificato

SiPM application for a detector for UHE neutrinos tested at Sphinx Station

giovedì 23 maggio 2013 17:25 (20 minuti)

We present the preliminary test results of the prototype detector, working at Sphinx Observatory Center, Jungfrauoch (~3800 m a.s.l.) HFSJG - Switzerland. This prototype detector is designed to measure a large angle cosmic rays flux emerging from the Earth crust. This station provides us an opportunity to understand if the prototype detector works safely under harsh environmental conditions (the air temperature changes between -25°C and -5°C). This detector prototype is using silicon photomultiplier (SiPM) produced by SensL and DRS4 board as read-out part. Measurements at different temperature at fixed bias voltage ($\sim 29.5\text{ V}$) were performed to reconstruct tracks by time of flight. Several array Tests deployed for 18 months at KIT to study the shower reconstruction and background are also presented.

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Classifica Sessioni: Parallel Session H