



Contribution ID : 97

Type : **Poster**

The thick neutron calorimeter for registration of the vertical and horizontal fluxes of the neutron-bearing cosmic ray component in the underground room of Tien-Shan station

Abstract content

Detector of a new type - the thick neutron calorimeter for the study of the muon-induced neutron events - was created in the underground room of the Tien-Shan mountain station (3340 m above the sea level) under a 2000 g/cm^2 thick rock absorber.

Installation consists of the two separate parts: the "vertical" calorimeter with 152 "Helium-2" type neutron counters being placed above each other in a vertical plane and a "horizontal" one, with 18 SNM-15 type neutron counters paced horizontally. As a neutron generator is used the lead (35 t in the "vertical" and 20 t in the "horizontal" calorimeter) and as a moderator - the hydrogen-enriched rubber and wood. Determination of the muon directions is performed by a telescopic system of scintillation detectors. The control system permits to register the temporal distributions of the signals from the each neutron detector in a time interval up to 4 ms.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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Session Classification : Posters 1 + Coffee

Track Classification : HE.1.1.A