LABORATORI NAZIONALI DEL GRAN SASSO

SEMINAR ANNOUNCEMENT

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Experimental Review of Supernova Relic Neutrinos

Supernova Relic Neutrinos (SRN) are the diffuse neutrino backgrounds from all the past Supernovae.
No experiments have succeeded in detecting SRN yet.
The world best flux upper limit on SRN, <1.2 /cm2/sec (>19.3MeV), was given by Super-K (2003) searching anti-electron neutrinos using 1496days data. SNO experiment set a SRN flux limit for electron type neutrinos and KamLAND experiment searched SRN in lower energy region. Super-K group plans to update their detector by mixing Gd into the pure water to tag a neutron and, separate signals and BGs. This project will be able to achieve a better sensitivity for SRN. SNO+ experiment located deep underground is also constructed and good sensitivity is expected because of their small BG rate. In this talk, an "Experimental review of SRN" will be presented including current results and future prospects.

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