



Contribution ID : 146

Type : **Oral talk**

DANSS Detector Upgrade

Thursday, 1 December 2022 12:30 (15)

DANSS detector at Kalininskaya nuclear power plant sets world records in antineutrino detection. Counting rates of up to 5000 events per day made it possible to collect more than 6.5 million antineutrinos in 6 years of stable operation. The data sample is extremely clean and features the signal to background ratio in excess of 50. Yet only moderate energy resolution of 34% at 1 MeV limits the sensitivity of the experiment for the sterile neutrino searches. The upgrade of the detector is aimed at more than twice better energy resolution of 12% at 1 MeV. Besides that the sensitive volume will be increased by 70% inside the same shielded space on the lifting platform. The talk will address the details and the status of the upgrade together with the first results of testing. The expected influence of the improvements on the sensitivity for the sterile neutrino will also be discussed.

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Session Classification : Facilities and Advanced Detector Technologies

Track Classification : Facilities and advanced detector technologies