

Status of upgrade the ASHIPH counter for the SND detector

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The threshold aerogel Cherenkov counters made by the ASHIPH method (Aerogel, Shifter and Photomultiplier) currently are being upgraded for the SND detector (VEPP-2000, INP SB RAS) in order to improve the quality of particle identification. The main idea of the upgrade is to replace the MCP PMT on more efficient Silicon PMTs (SiPM), which have PDE in maximum of up to 40%. An optimal electrical circuit for the SiPM by supply voltage and signal was developed. A prototype the ASHIPH counter was created for tests, which content a cooling system to reduce the SiPM thermal noise (or DCR). Prototypes of ASHIPH counters with SiPMs with refractive indices $n=1.05$ and $n=1.12$ were tested on a test electron beam. The results on the detected average number of photoelectrons per particle, light collection inhomogeneity and particle separation quality will be presented.

Author: EFREMOV, Robert (Budker Institute of Nuclear Physics)

Presenter: EFREMOV, Robert (Budker Institute of Nuclear Physics)

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