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## Results from R&D of Cherenkov detectors at Novosibirsk

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The work on aerogel Cherenkov counters was started in Novosibirsk in 1986. Our group produces silica aerogels with refractive indices of 1.006–1.13. Largest block dimensions achieved for  $n=1.03$  are  $200 \times 200 \times 50 \text{ mm}^3$ . Optical transparency of Novosibirsk aerogel is one of the best in the world. The particle identification system for the KEDR detector based on the ASHIPH counters with light collection on wavelength shifters has been partially installed in 2003. The system consists of 160 counters containing 1000 l of aerogel in the whole. The similar counters for the SND detector at VEPP-2000  $e+e-$  collider are being developed. Aerogel with refraction index of 1.13 has been employed in this counters for the first time in the world. The results of the SND counter test with cosmic muons are presented. Recently we have started the study of RICH with 'focusing aerogel'(FARICH). We have developed a technique of multi-layer aerogel blocks production. A few samples of 2- and 4-layered aerogel were produced. The Geant4 simulation code has been developed to calculate the performance of FARICH detector. The possibility of using crystal sodium fluoride in a RICH detector has been investigated. It has been shown that NaF RICH can achieve a competitive velocity resolution as compared to aerogel RICH. The combined NaF-aerogel radiator has been proposed to extend the working momentum range of aerogel RICH down to 0.6 GeV/c.

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