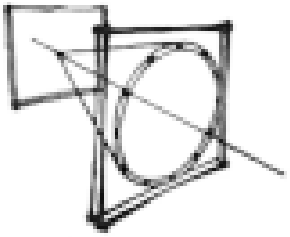

Contribution ID: **78** Type: **Oral presentation**

Investigation of Cherenkov light scattering and refraction on aerogel surface.

Friday 9 September 2016 10:00 (25 minutes)

The work is devoted to the development of aerogel radiators for RICH detectors. The aerogel tiles with refractive index 1.05 and thickness of 30 mm were tested with RICH prototype on electrons beam at VEPP-4M collider.

The tile with cracks inside has been investigated. The experimental
data show that the Cherenkov angle resolution for tracks in the crack
area and for tracks in the normal area are the same.

Several tiles with polished surface were tested with RICH prototype. Earlier It was shown that polishing with silk tissue gives good surface quality, the amount of light lost at this surface is about 5-7%. The Cherenkov angle resolution was measured for the tile in two positions – clean outflow face and polished outflow face. The number
of detected photons are 11.5 for clean and 11.1 for polished surfaces.
The Cherenkov angle resolution for polished surface is 30% worse. This points
to forward scattering on the polished surface

These results are important for the development of aerogel radiators
for RICH detectors.

Registered

Yes

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