

## **Status of Aerogel Radiator with High Refractive Indices**

A proximity focusing ring imaging Cherenkov (RICH) counter based on silica aerogel radiator has been developed for a new particle identification device in the Belle detector upgrade. In this study, we are developing hydrophobic and highly transparent aerogel with the refractive index range of 1.04 to 1.07, and achieved a transmission length of 50 mm at 400 nm wavelength. As an additional study, ultra high density aerogel with refractive indices up to 1.26 was developed for particle identification in low momentum region. Our new production method of hydrophobic silica aerogel: Pinhole Drying method makes possible production of these excellent aerogels. Performance of new aerogel tiles as a Cherenkov radiator was examined by a prototype RICH counter with electron beams.

**Summary (Additional text describing your work. Can be pasted here or give an URL to a PDF document):**

[http://www.ppl.phys.chiba-u.jp/~makoto/vci2010\\_summary\\_tabata.pdf](http://www.ppl.phys.chiba-u.jp/~makoto/vci2010_summary_tabata.pdf)

**Primary author:** Dr TABATA, Makoto (Japan Aerospace Exploration Agency (JAXA))

**Co-authors:** Prof. KAWAI, Hideyuki (Chiba University); Dr YOKOGAWA, Hiroshi (Panasonic Electric Works Co.,Ltd.); Dr ADACHI, Ichiro (High Energy Accelerator Research Organization (KEK)); Prof. SUMIYOSHI, Takayuki (Tokyo Metropolitan University)

**Presenter:** Dr TABATA, Makoto (Japan Aerospace Exploration Agency (JAXA))