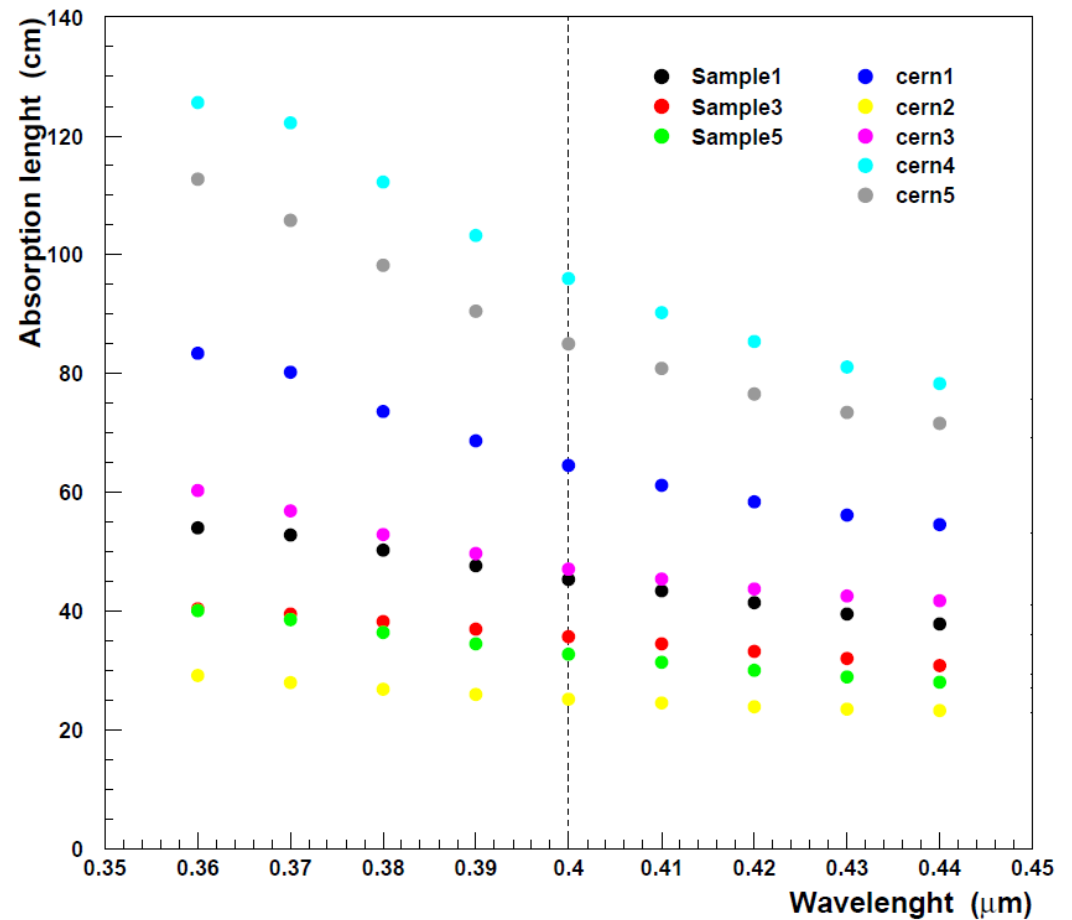
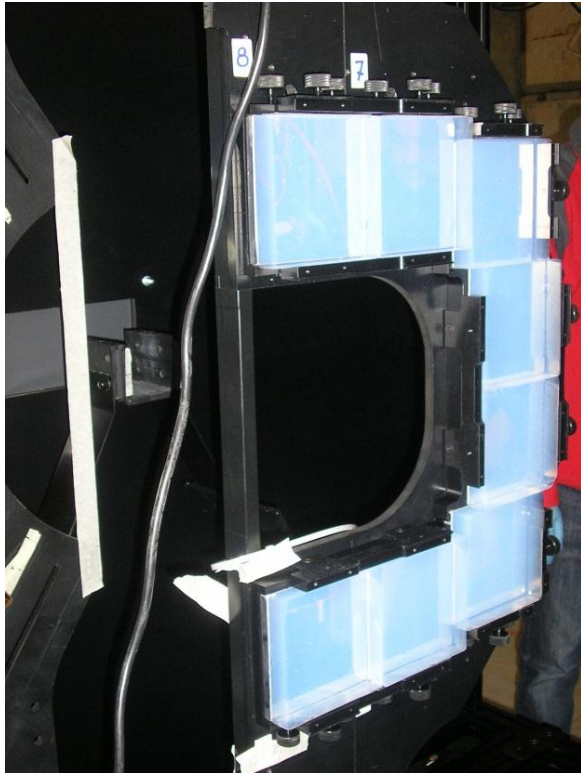


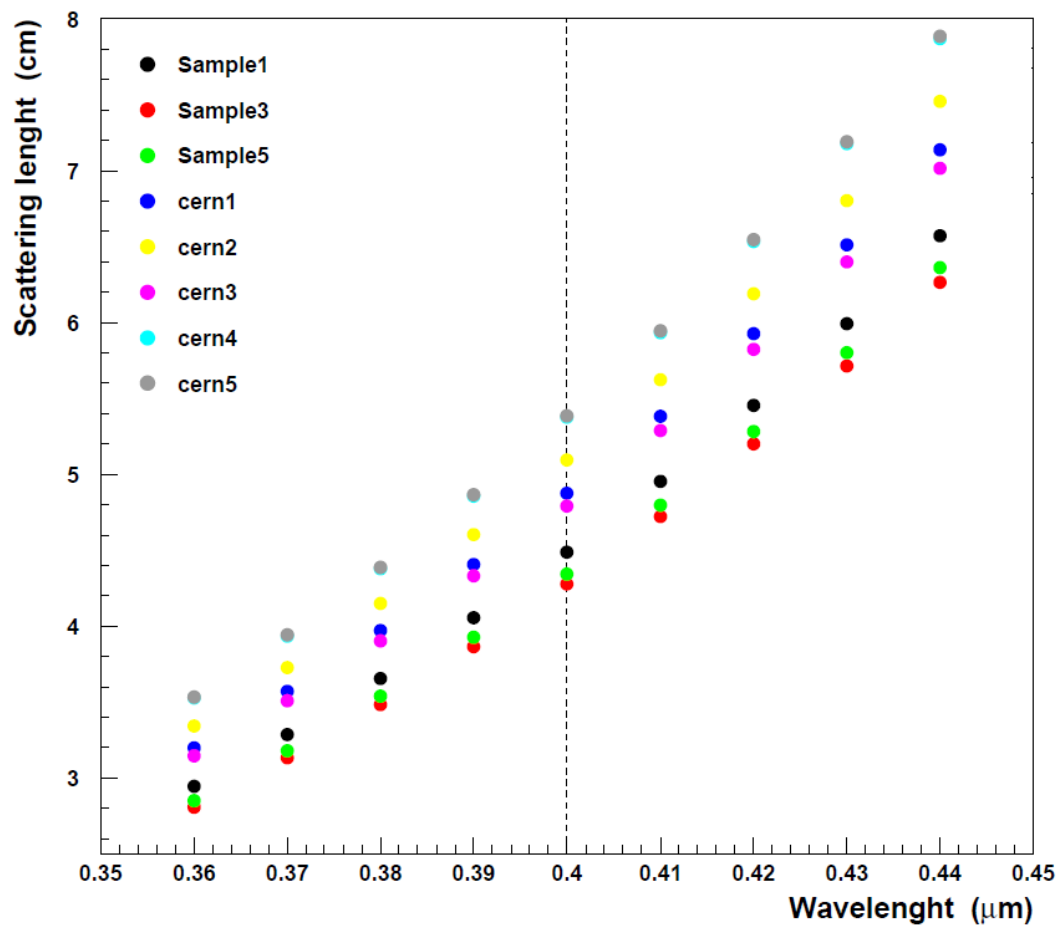
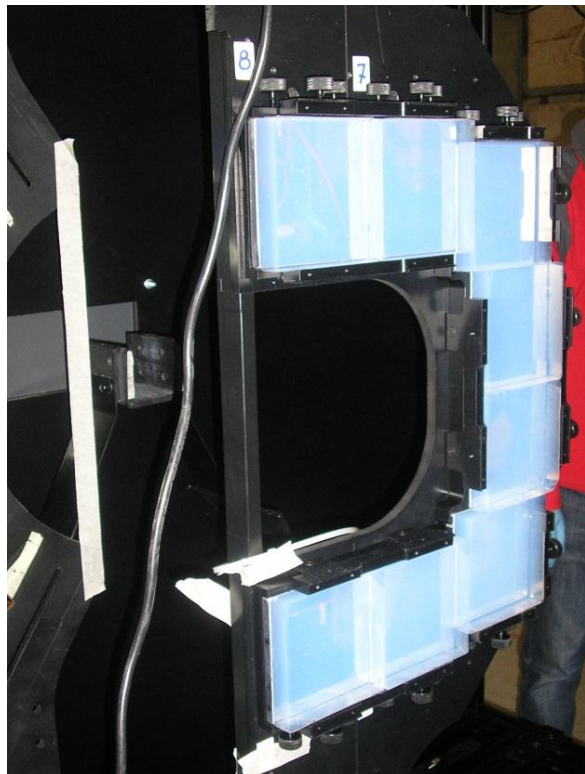
Optical characterization of aerogel tiles

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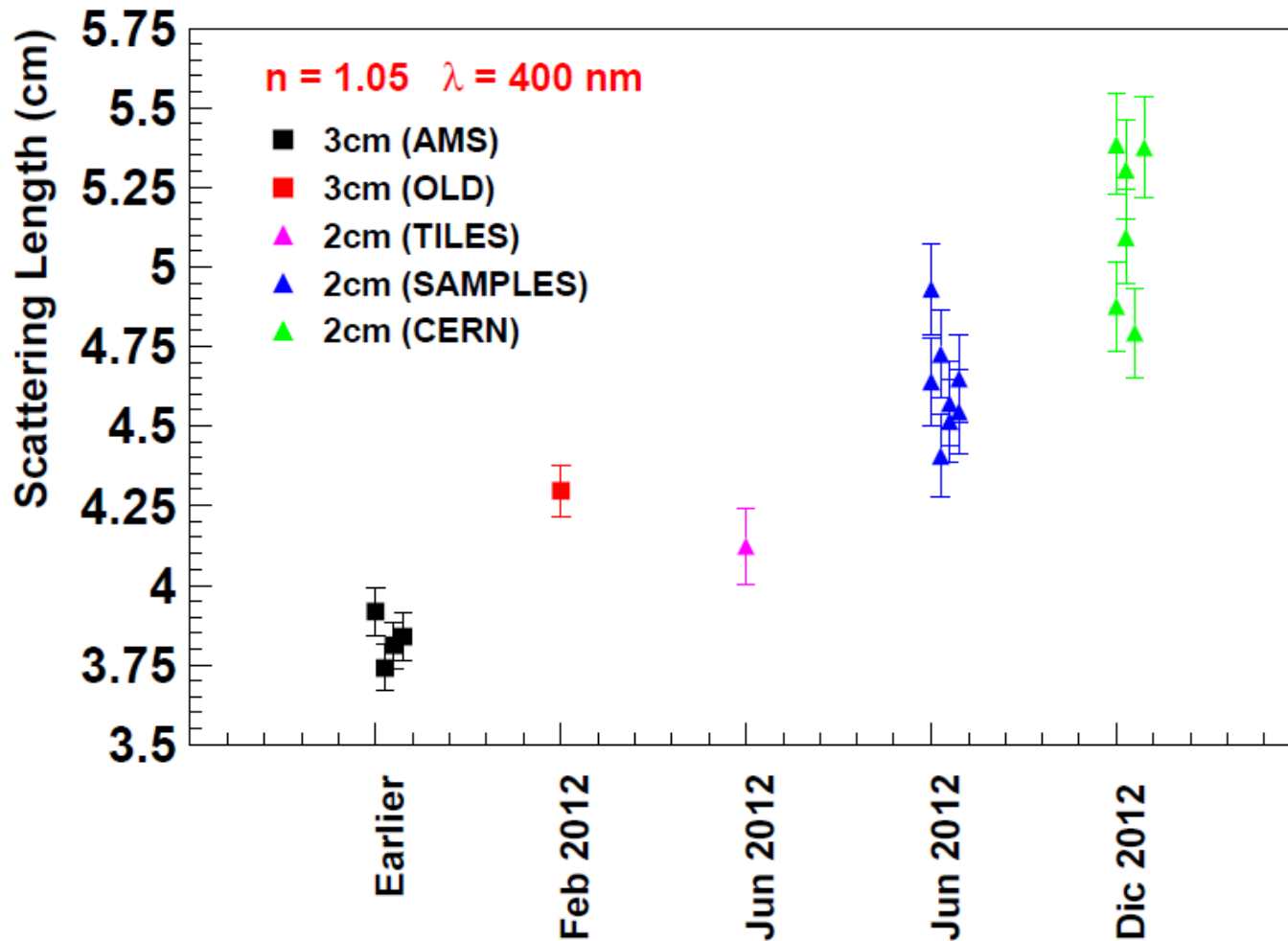
Improvements in production techniques (Novosibirsk)



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Basic formalism

Transmittance

$$T = e^{-\frac{t}{\Lambda_{tot}}} = e^{-t\left(\frac{1}{\Lambda_A} + \frac{1}{\Lambda_S}\right)} = e^{-\frac{t}{\Lambda_A}} \cdot e^{-\frac{t}{\Lambda_S}} = A \cdot e^{-\frac{Ct}{\lambda^4}}$$

Hunt formula

$$A = TF = e^{-\frac{t}{\Lambda_A}}$$

\Rightarrow

$$\Lambda_A = \frac{-t}{\ln A} \quad \text{Absorption length}$$

Transflectance

$$\Lambda_S = \frac{\lambda^4}{Ct} \quad \text{Scattering length}$$

Procedure: measure $T(\lambda)$ \rightarrow fit with Hunt formula \rightarrow extract Λ_A and Λ_S

