

# Technical Meeting on Nuclear Data Needs for Antineutrino Spectra and their Applications

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## DANSS detector status and upgrade

*Monday 7 April 2025 16:00 (45 minutes)*

The DANSS experiment at Kalininskaya NPP is running for already 8 years since April 2016. The largest in the world in the single experiment statistics of 9,3 million inverse beta decay events is collected. The data sample covers 4 full cycles of the industrial power reactor. DANSS experimental program includes both a search for physics beyond the Standard Model, like sterile neutrinos or large extra dimensions, and applied studies connected to reactor monitoring using electron antineutrino flux. The model independent exclusion area in the sterile neutrino parameter space for 3+1 hypothesis extends till  $\sin 2\theta = 0.004$  for  $\Delta m = 0.9$  eV, where sensitivity of the experiment is the best. The remote industrial reactor monitoring allows us to determine the power of the reactor with an accuracy of 1.3% for the three days of measurement. Along with ongoing statistics collection DANSS is preparing for an upgrade, which shall significantly improve its energy resolution and also increase the fiducial volume. The talk covers recent analysis results and the upgrade status.

**Author:** Dr SHIRCHENKO, Mark (Joint Institute for Nuclear Research)

**Presenter:** Dr SHIRCHENKO, Mark (Joint Institute for Nuclear Research)

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