

## **Status of the DANSS project: in pursuit of a light sterile neutrino**

*Thursday 27 July 2017 16:00 (15 minutes)*

The main goal of the DANSS project is to probe SBL reactor antineutrino oscillations to the sterile state with a compact cubic meter highly segmented neutrino spectrometer made of 2500 plastic scintillator strips ( $100 \times 4 \times 1 \text{ cm}^3$ ) covered with gadolinium loaded reflective coating and read out by 2500 SiPMs and 50 PMTs via WLS-fibers. The DANSS detector has been built under a 3 GW commercial reactor (the Kalinin NPP, Russia). The spectrometer has passive shield, active muon veto, and can be positioned in 10-12 m from the center of the reactor due to a vertically mobile platform. It is registering 5000 reactor antineutrinos per day via inverse beta decay with an excellent discrimination of all types of background. Preliminary results of analysis of one year data collected in 2016-2017 will be presented. These data provide sensitivity in the most interesting region of the phase space, where sterile neutrino is predicated by RNA and other anomalies in SBL oscillation data.

**Author:** Dr SHITOV, Yury (Imperial)

**Presenter:** Dr SHITOV, Yury (Imperial)

**Session Classification:** Neutrino Parallel

**Track Classification:** Neutrinos