



## Poster session 2 – Tuesday 5 July

### P2.075 Status of the DANSS project

V Egorov<sup>1</sup> and Y Shitov<sup>2</sup>

<sup>1</sup>Joint Institute for Nuclear Research, Russia, <sup>2</sup>Imperial College London, UK

*on behalf of DANSS collaboration*

The common *JINR* (Dubna) - *ITEP* (Moscow) project **DANSS** is aimed at creating a relatively compact neutrino spectrometer, which does not contain any flammable or other dangerous liquids and may therefore be located very close to the core of an industrial power reactor. As a result, high neutrino flux provides about 15,000 IBD interactions per day in the detector with a sensitive volume of 1 m<sup>3</sup>. High segmentation of the plastic scintillator allows to suppress a background down to a ~1% level. Numerous tests performed with a simplified pilot prototype DANSSino under a 3 GW<sub>th</sub> reactor WWER-1000 of the Kalinin NPP have demonstrated operability of the chosen design.

The DANSS detector surrounded with a composite shield is movable on-line by means of a special lifting gear, varying the distance to the reactor core in a range from 10 m to 12 m within four minutes. Due to this feature, the detector will be used not only for the reactor monitoring, but also for fundamental research including short-range neutrino oscillations to the sterile state. Supposing one-year measurement, the sensitivity to the oscillation parameters is expected to reach a level of  $\sin^2(2\theta_{\text{new}}) \sim 0.005$  with  $\Delta m^2$  in (0.02-5.0) eV<sup>2</sup>.

Operation of the DANSS detector was started in January 2016. The report will contain description of the spectrometer and the first preliminary results got in few months.