Contribution ID: **374** Type: **Poster reactor**

The ILL antineutrino spectrum

The STEREO experiment is measuring the antineutrino flux emitted by the reactor of the ILL in Grenoble-France. About 400 antineutrinos per day of data taking are currently detected. The target volume, segmented in 6 detector cells, allows for a search of a light sterile neutrino in a way independent of prior knowledge on the reactor. However the detected spectrum will also provide a new reference antineutrino fission-spectrum with a virtually pure contribution from the 235U isotope. In this poster we will present the calculations performed to compare this upcoming new experimental reference with a predicted spectrum. This includes the determination of the accuracy of the thermal power, the estimation of off-equilibrium effects for typical 50-days long reactor cycles and the antineutrinos emitted by the spent fuel stored on site or by activated materials. Finally the normalization of the reference beta fission-spectra measured at the ILL in the 80's will be discussed.

Authorship annotation

for the STEREO collaboration

Session and Location

Monday Session, Poster Wall #193 (Ballroom)

Poster included in proceedings:

yes

Primary authors: Dr LETOURNEAU, Alain (CEA-Saclay); Dr LHUILLIER, david (CEA Saclay)

Presenter: Dr LHUILLIER, david (CEA Saclay)

Track Classification: Poster (not participating in poster prize competition)