

## **STEREO, Search for a light sterile neutrino at the ILL reactor**

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Recent re-evaluations of antineutrino spectrum emitted by nuclear reactor have led to the observation of a  $\sim 7\%$  deficit in neutrino flux at short distance from reactors with respect to predictions. This deficit, known as the Reactor Antineutrino Anomaly (RAA), could be the signature of an oscillation of antineutrino towards a light sterile neutrino with a mass scale of 1eV. However, it is not excluded that the flux prediction could be biased making this deficit totally artificial. The STEREO experiment aims at probing unambiguously the existence of an oscillation at short distance from reactor, at the Institut Laue-Langevin (ILL) in Grenoble. The STEREO detector, segmented in 6 identical cells filled with Gd-loaded liquid scintillator, allows to observe a possible relative deformation of the neutrino spectrum along the propagation axis. STEREO takes data since end of 2016 and started to produce constraining results on an active-sterile flavor oscillation. The talk will describe the STEREO experiment principles and will give the latest results of its data analysis.

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