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Séminaire SPP

Jeudi 24 mai 11h00

CEA-Saclay Bat 141, salle André Berthelot

Observation of Electron Antineutrino Disappearance by the Daya Bay Reactor Neutrino Experiment

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Many experiments have demonstrated the neutrino's ability to change flavor while traveling through space. One of the last remaining unknown parameters describing these oscillations, θ_{13}, is crucial in defining the magnitude of possible CP-violation in the lepton sector, and examining the neutrino's role in the universe's matter-antimatter asymmetry. The Daya Bay experiment has measured θ_{13} with unprecedented precision by observing the disappearance of reactor antineutrinos with identical detectors at multiple locations. With roughly two months of data, the experiment has measured the value of $\sin^2(2\theta_{13})$ to be 0.092 +/- 0.017, and excluded the $\theta_{13} = 0$ hypothesis to five standard deviations. This talk will describe the Daya Bay experiment and current results.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Emilie Chancrin, tél. 01 69 08 23 50, e-mail : `emilie.chancrin@cea.fr`. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).