



Poster session 2 – Tuesday 5 July

P2.061 Measurement of $\sin^2(2\theta_{13})$ via neutron capture on hydrogen at Daya Bay

M Yang and Q Wu

Shandong University, China

on behalf of Daya Bay collaboration

The Daya Bay Reactor Neutrino Experiment made the most precise measurement of $\sin^2(2\theta_{13})$ using inverse beta decay samples tagged by neutron captured on gadolinium (nGd). An independent analysis using samples based on neutron captured on hydrogen (nH) was performed. To deal with the challenges due to larger backgrounds, longer neutron capture time and lower detection efficiency, the nH analysis developed several data-driven techniques to precisely measure backgrounds and control systematic errors. This statistically independent and largely systematically uncorrelated independent analysis provides a firm confirmation of the nGd result and yields the world's second most precise measurement of $\sin^2(2\theta_{13})$. This poster will present the technical details as well as the latest results of the nH analysis.