Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

Reactor Antineutrino Anomaly with known θ_{13} CHAO ZHANG, Brookhaven National Lab — We revisit the reactor antineutrino anomaly using the recent reactor flux independent determination of sizable θ_{13} by considering the full set of the absolute reactor $\bar{\nu}_e$ flux measurements. When normalized to the predicted flux of Mueller et al. [Phys. Rev. C 83, 054615 (2011)], the new world average, after including results from Palo Verde, Chooz, and Double Chooz, is 0.959 ± 0.009 (experiment uncertainty) $\pm$ 0.027 (flux systematics). Including the data with kilometer baseline, the new world average is only about 1.4σ lower than the unity, weakening the significance of the reactor antineutrino anomaly. The upcoming results from Daya Bay, RENO, and the Double Chooz will provide further information about this issue.

Chao Zhang
Brookhaven National Lab

Date submitted: 28 Jun 2013 Electronic form version 1.4