

Abstract Submitted  
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**Daya Bay Antineutrino Flux Calculations and Effective Weekly Reactor Data**<sup>1</sup> JACLYN LAKEY, University of Utah — Within the framework of the neutrino oscillation theory the Daya Bay Reactor Neutrino Experiment has measured the  $\sin^2 2\theta_{13}$  mixing angle to be  $0.089 \pm 0.010(stat) \pm 0.005(syst)$ . The value of  $\sin^2 2\theta_{13}$  is extracted by comparing the observed spectrum with that of the predicted spectrum using chi-squared method. The predicted spectrum is based on the calculated reactor flux and the Daya Bay antineutrino detector model. Precise antineutrino flux calculations are an essential part of oscillation analysis. To ascertain the flux we need knowledge of the antineutrino energy spectra of fission isotopes, the isotopes fractional contribution, the thermal power produced and the isotope fission energies. In addition to the antineutrino flux some analyses need access to complete reactor information. We have designed a method which provides analyzers the unbiased effective weekly reactor data based upon the confidential daily reactor information. This poster will show how the Daya Bay reactor fluxes and effective weekly reactor data are calculated.

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