Abstract Submitted
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Implications of the recently measured, surprisingly large value of θ_{13}[1] BERNADETTE COGSWELL, HUNTER BURROUGHS, JESUS ESCAMILLA-ROA, Vanderbilt University, DAVID LATIMER, University of Puget Sound, DAVID ERNST, Vanderbilt University — The reactor experiments RENO, Daya Bay, and Double Chooz have recently measured a statistically significant non-zero value of θ_{13}. The implications of this result for determining the hierarchy and the sign of θ_{13} will be examined by performing an analysis that includes these reactor experiments, appearance and disappearance experiments from MINOS and T2K, and atmospheric data. The study is done in the context of the broken symmetry that produces degeneracy for the MINOS and T2K disappearance experiments, the symmetry of the simultaneous interchange of hierarchy and the sign of θ_{13}. Results will be presented utilizing a new approach for extracting error bars and probabilities that does not assume normal statistics. In particular, the probability the correct solution for each of the four combinations of hierarchy and the sign of θ_{13} will be given.

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