Abstract Submitted for the DNP07 Meeting of The American Physical Society

Statistical Analysis of Proton and Neutron Resonance Data<sup>1</sup> D.J. SISSOM, J.F. SHRINER, JR., Tenn. Tech. Univ., G.E. MITCHELL, North Carolina St. Univ. and TUNL — Random matrix theory (RMT) is thought to describe statistical properties of neutron and proton resonance data. Very strong evidence for this conclusion comes from a 1982 analysis by Haq *et al.*<sup>2</sup> of the Nuclear Data Ensemble (NDE), a collection of resonance levels from 32 different nuclides. Because newer data are available for many of the nuclides in the NDE, an updated data set is appropriate. We have examined current resonance data for the nuclides in the original NDE as well as for other even-even targets. N(E) "staircase" plots and comparisons of reduced widths with the Porter-Thomas distribution are utilized as tests of data quality. Of the NDE's original 35 sequences, we have retained 11 sequences with new data and 10 sequences with the original NDE. Several different statistical tests have been performed. Thus far, the data have shown good agreement with expected behavior.

<sup>1</sup>Work supported by the US Dept. of Energy under grants DE-FG02-96ER40990 and DE-FG02-97ER41042.

<sup>2</sup>R. U. Haq *et al.*, Phys. Rev. Lett. **48**, 1086 (1982).

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Date submitted: 01 Aug 2007

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