Abstract Submitted
for the APR06 Meeting of
The American Physical Society

MaxEnt Power Spectrum of the Solar Magnetic Cycle from a Wavelet Analysis of Sunspots R. W. JOHNSON, Fusion Research Center, Georgia Institute of Technology — The power spectrum of the solar magnetic cycle is calculated from a wavelet analysis of the de-rectified yearly sunspot Wolf index for the years 1700-1995. Boundary edge effects in the cone-of-influence are treated via reflection of the data, with comment on such technique's validity. Broad peaks are sharpened using maximum entropy. The ∼22 year Hale cycle is shown to have variability in its period as a function of time. Evidence for the excitation of harmonics is seen during times of greater amplitude of the fundamental. The yearly solar magnetic power is compared with records of global temperature.

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Date submitted: 12 Jan 2006 Electronic form version 1.4