SPACE AND COSMIC RAY PHYSICS SEMINAR

University of Maryland
Computer & Space Sciences Building, Rm 2400
4:30 PM Monday, March 29, 2004
Tea & cookies 4:00-4:30 PM

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What Have We Learned from 200 EIT Waves?

"EIT Waves," named for the Extreme ultraviolet Imaging Telescope on the SOHO mission, are large-scale propagating disturbances in the Sun's corona. They've been associated with nearly every impulsive solar phenomenon—flares, coronal mass ejections (CMEs), Type II bursts, solar energetic particles—and the corresponding causal relationship is becoming increasingly clear. However, the most interesting aspect of EIT wave research may not be their origin or their physical nature, but what the waves teach us about the corona and the dynamic nature of the Sun itself (our understanding of coronal pressure balance and solar eruptions makes it difficult to conceive of a scenario where a CME does not cause a magnetosonic impulse of some sort). The true potential of this research lies in the propagation and effects of these transients; the nascent field of "coronal seismology" provides us with an entirely new way of "sounding out" the coronal magnetic field and allows us to observe first-hand the processes which maintain the Sun's pressure equilibrium.

Sponsored by: Department of Physics, University of Maryland, and the Institute for Physical Science and Technology, University of Maryland. For information call Matthew Hill at (301) 405-6209 or go to the following website: http://space.umd.edu/seminars/Spring_2004_Seminar.html (A PDF file of this abstract is available for download at this URL.)

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