

SPACE AND COSMIC RAY PHYSICS SEMINAR

University of Maryland
Computer & Space Sciences Building, Rm 2400
4:30 PM Monday, April 26, 2004
Tea & cookies 4:00-4:30 PM

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Voyager 1 Surfing the Termination Shock

Since reaching 85 astronomical units in the middle of 2002, Voyager 1 has observed extended periods of field-aligned particle flows that are unlike previous observations, suggesting the spacecraft is in the vicinity of the termination shock of the solar wind. The observations differ from what was expected, leading to differing conclusions as to whether Voyager 1 crossed the termination shock into the heliosheath. In either case, there are aspects of the observations that are challenging to reconcile with current models. The observations may be revealing the role of fluctuations in the magnetic field in the acceleration and escape of particles from quasi-perpendicular shocks and may reflect complex perturbations in the shock due to localized variations in the solar wind dynamic pressure. The shock should now be moving outward, so there will likely be more surprises as Voyager 1 surfs along a very dynamic shock and begins exploring the heliosheath beyond.

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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