Abstract for SW8

# Time-Dependent MHD Modeling of the Global Structure of the Heliosphere

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We present results from time-dependent modeling of the global structure of the heliosphere with neutral and magnetic field effects included. The magnetic field is assumed parallel to the interstellar flow in this two-dimensional axisymmetric model; the neutrals are treated as a fluid. The effects of interstellar neutrals and the interplanetary magnetic field on the **location** of the termination shock are studied using the most recent **estimate** of the interstellar medium parameters; results will be compared to the of Baranov and Zaitsev[1]. The effect of the solar wind - VLISM interaction on the density and velocity of interstellar neutrals within the heliosphere will also be presented and related to observations. The response of the termination shock to the solar cycle variation in the solar wind will be compared to the response found previously using an axisymmetric hydrodynamic model without neutrals[2].

1. V. B. Baranov and N. A. Zaitsev, Astron. Astrophys. (to be published, 1995).
2. S. R. Karmesin, P. C. Liewer and J. U. Brackbill, GRL (to be published, 1995).

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2, Contributed

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