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THE GLOBAL INTERACTION OF COMETS WITH THE SOLAR WIND

Harry L. F. Houpis
Space Physics Research Laboratory
University of Michigan, Ann Arbor

MX 275710

The recent in situ measurements of the plasma-neutral gas environment of comet Halley by the GIOTTO and VEGA spacecraft have confirmed the global theory of the comet-solar wind interaction presented at the last STIP meeting by Flammer, Mendis and Houpis. The ionopause, cometopause and bow shock distances are the primary predictions of the model, although various momentum collisional cross-sections can also be estimated. With this greater confidence in the global model, the sharp sunward intensity decrease in the spatial H_2O^+ profiles observed by McCarthy, Strauss and Spinrad for comet Halley between 2.14 AU pre- and post-perihelion are interpreted as the cometopause boundary. This interpretation may then be used to determine the solar wind conditions local to the comet.