

9. Experimental Modeling of Plasma Flow Interactions

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Abstract

The rationale for conducting ground-based laboratory studies (simulating aspects of the interaction between spacecraft and the environmental Space plasma) will be discussed. The discussion will be in the context of utilizing these ground-based facilities to complement both in-situ and theoretical studies of the disturbed zone around spacecraft in orbit. Data, which were taken in the "Plasma Wind Tunnel" facility at MSFC, will be presented showing some of the advantages and disadvantages of utilizing laboratory facilities. Finally, some discussion will be given on modifying presently available systems in order to better model aspects of the satellite environment in geosynchronous orbit.