

ABSTRACT:

Meteoroid Protection Provided by Cassini Thermal Blankets: Testing and Modeling

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The Cassini spacecraft relies upon its thermal protection system for meteoroid protection. It is necessary to quantify the effectiveness of this protection for the purposes of estimating mission success probability and satisfying launch approval requirements as they apply to nuclear safety. This paper describes a combined approach employing impact testing and numerical hydrodynamics computations to develop an accurate model of meteoroid impact processes.