

## Laboratory simulations of solar wind interaction with airless bodies and dust

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The Colorado Solar Wind Experiment (CSWE) is a new device constructed at the Institute for Modeling Plasma, Atmospheres, and Cosmic Dust (IMPACT) at the University of Colorado. This large ion source is being developed for studies of the interaction of solar wind plasma with planetary surfaces and cosmic dust, and for the investigation of plasma wake physics. A large cross-section Kaufman ion source is used to create steady state plasma flow to model the solar wind in an experimental vacuum chamber. The plasma beam has a diameter of 12 cm at the source, ion energies of up to 1 keV, and ion flows of up to 0.1 mA/cm<sup>2</sup>. Chamber pressure can be reduced to  $4 \times 10^{-5}$  Torr under operating conditions to suppress ion-neutral collisions and create a monoenergetic ion beam. Diagnostic instruments such as a double Langmuir probe and an ion energy analyzer are mounted on a two-dimensional translation stage that allow the beam to be characterized throughout the chamber. This poster describes the technical details of the device, initial operation and characterization, and the planned experiments.