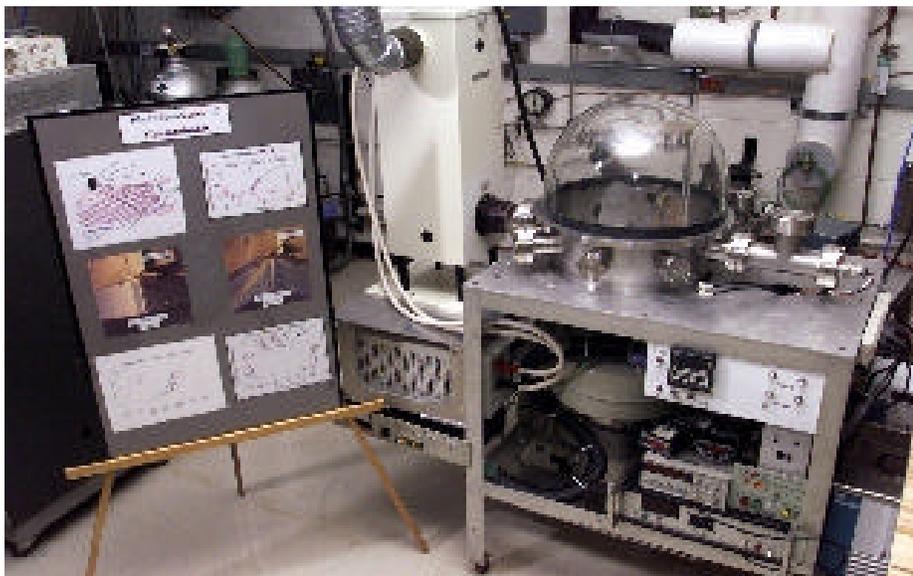




Combined Effects of IV and Atomic Oxygen on Contaminant Deposition

C7



Objective

Materials in space can outgas volatiles which can land on other surfaces. A deposition can contaminate surfaces affecting optics, changing thermal control properties and producing other detrimental effects. An experiment chamber which allows for outgassing of materials at set temperatures, control of substrate temperature and individual or combined exposure to VUV and atomic oxygen has been assembled. Data on the deposition as a function of these variables can be collected.

Why Needed

Much is known about outgassing of materials and the propagation of them around a spacecraft. Not enough is known about the deposition of contaminants and related effects. Some work on UV enhanced photodeposition has been done but not near enough to develop models and no synergistic effects between atomic oxygen, VUV and contaminants have been measured in the lab even though effects have been observed from space experiments.

Point of Contact

DeWitt Burns/ED31
Phone: 256-544-2529
Email: dewitt.burns@msfc.nasa.gov

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