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Hypervelocity Atomic Oxygen Source for the Study Of
Atom-Surface Interactions

By

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ABSTRACT

We will describe planned improvements in an electric discharge heated atomic oxygen beam source (Ref. Sci. Instrum. 53, 1714 (1982)) which will, if successful, provide 6-7 kms⁻¹ beams of atomic oxygen with a flux of 10¹⁶ cm⁻² s⁻¹ at 50 cm distance from the source aperture. A major advance will be the use of a "zone of silence" nozzle-skimmer arrangement which is necessitated by the need for high source flux and performance. It is anticipated that a Phase II program would provide for the fabrication of a two stage vacuum system which would be suitable for bolting on to a UHV surface study apparatus.

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