

Abstract Submitted
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O(¹D) production following electron impact on oxygen-containing molecules¹ WILLIAM MCCONKEY, WLADEK KEDZIERSKI, ELLY BLEJDEA, AMANDA DICARLO, JEFFREY HEIN — O(¹D) is an important species in the earth's atmosphere giving rise to the well known oxygen red lines at wavelengths of 630.0 and 636.4 nm from the upper atmosphere and strongly influencing stratospheric photochemistry. O(¹D) is metastable and is difficult to detect selectively in the laboratory. We have developed techniques and instrumentation involving a solid Ne matrix at 10K that is sensitive to this species through the formation of excited excimers (NeO*) which immediately radiate. Relative cross sections as a function of impact electron energy will be presented for N₂O and CO₂ targets. Threshold energy data will be used to gain information about the parent molecular states.

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