

Abstract Submitted  
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**Wave Optics Simulation and Prediction of Retro-reflections from Optical Systems** JOHN TATAR, WALTER COLE<sup>1</sup>, MICHAEL MARCINIAK, Air Force Institute of Technology — Optical devices interrogated with a laser in the appropriate band can exhibit strong retro-reflections of the incident beam, a characteristic that could be exploited for optical target detection and identification. The distribution of reflected power is strongly dependent on the geometry of the interrogation scenario, atmospheric conditions, and the cross section and reflectivity of the target optical device. Wave optics simulations and field tests are used to characterize the spatial distribution of reflected power from a corner cube and a lens-reflector target at varying focus.

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