Abstract Submitted
for the OSF05 Meeting of
The American Physical Society

Atmospheric Effects On Laser Light DEBRA COX, Ohio Northern University, STEVEN FIORINO, Air Force Institute of Technology — HELEEOS (High Energy Laser End-to-End Operational Simulation) was developed by the Air Force Institute of Technology's Center for Directed Energy. HELEEOS simulates how the presence of aerosols affects a beam of laser light propagating though the atmosphere. We worked to improve HELEEOS by giving it the additional capability to simulate how clouds, fog, and rain affect the propagation of laser light. HELEEOS simulates how these disturbances affect laser light by using Mie scattering theory to calculate the extinction, scattering, and absorption coefficients. The cloud, fog, and rain calculations have been successfully incorporated into HELEEOS. We also endeavored to calculate how much laser light is scattered in a particular direction. This work has not been incorporated into HELEEOS, but it will be used as a starting point for further research.

Debra Cox
Ohio Northern University

Date submitted: 23 Sep 2005 Electronic form version 1.4