

**SSEC/CIMSS
Seminar**

GARY GIMMESTAD

**Electro-Optics Laboratory
Georgia Tech Research Institute**

**LIDAR for Monitoring Profiles of
Atmospheric Turbulence**

The Georgia Tech Research Institute (GTRI) has developed a new type of LIDAR system for monitoring profiles of atmospheric refractive turbulence. The system makes real-time measurements by projecting a laser beam to form a laser beacon at several successive altitudes. The beacon is observed with a multiple-aperture telescope and the motion of the beacon images from each altitude is characterized as the differential image motion variance. An inversion algorithm has been developed for the LIDAR to retrieve the turbulence profile. GTRI built a brassboard version of the LIDAR instrument and tested it in October and December 2007, with truth data from scintillometers and balloon-borne microthermal probes. Results of the test are presented along with lessons learned.

Wednesday, 20 February 2008

1:00 p.m.

Room AOSS 351