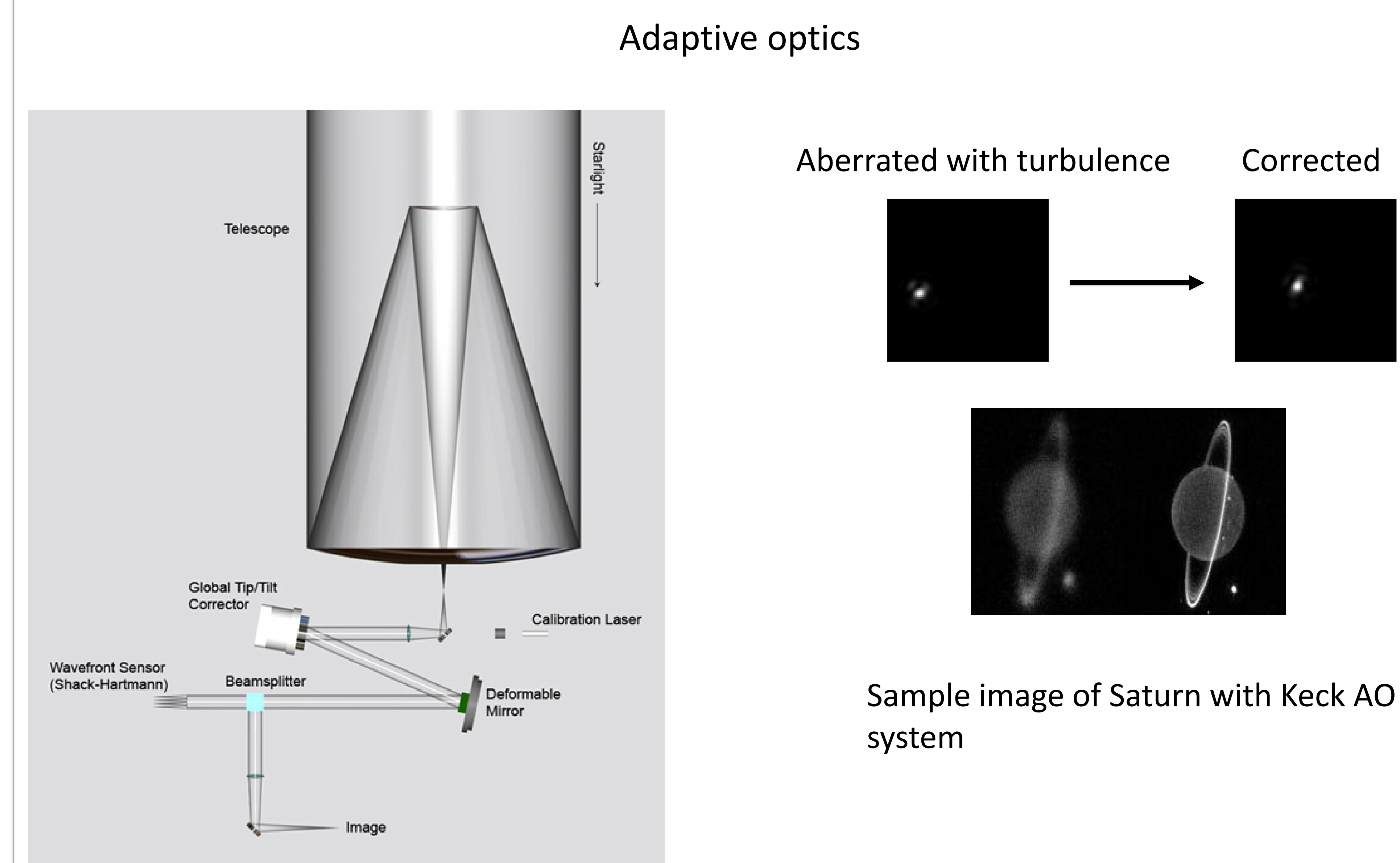
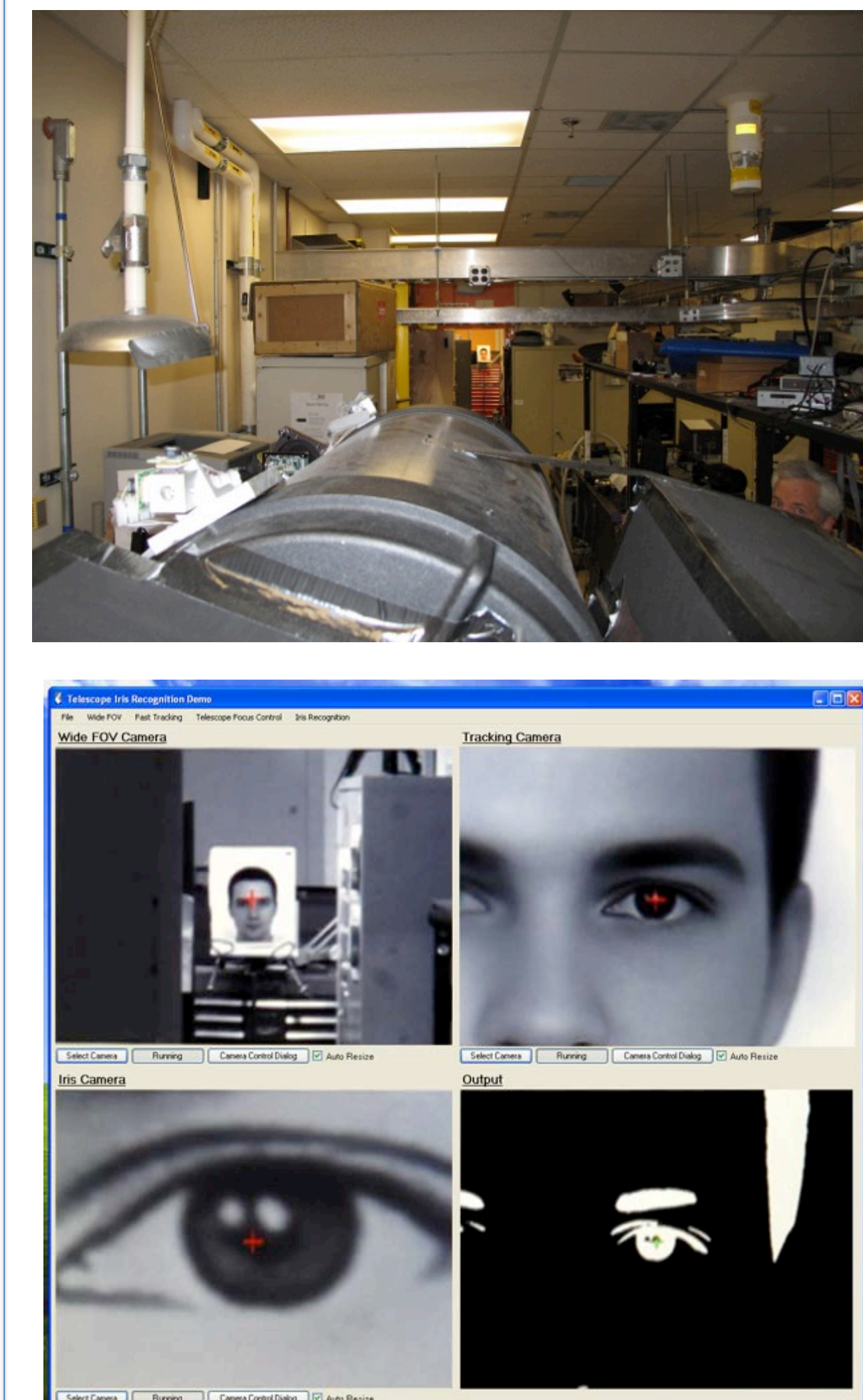


Light-Weight Telescopes and Adaptive Optics Applications

- Light-weight carbon fiber reinforced polymer structures for telescope
- Adaptive optical systems for astronomy and other applications
- CFRP – carbon fiber reinforced polymer materials
- Telescopes and adaptive optics for long-range biometric iris recognition

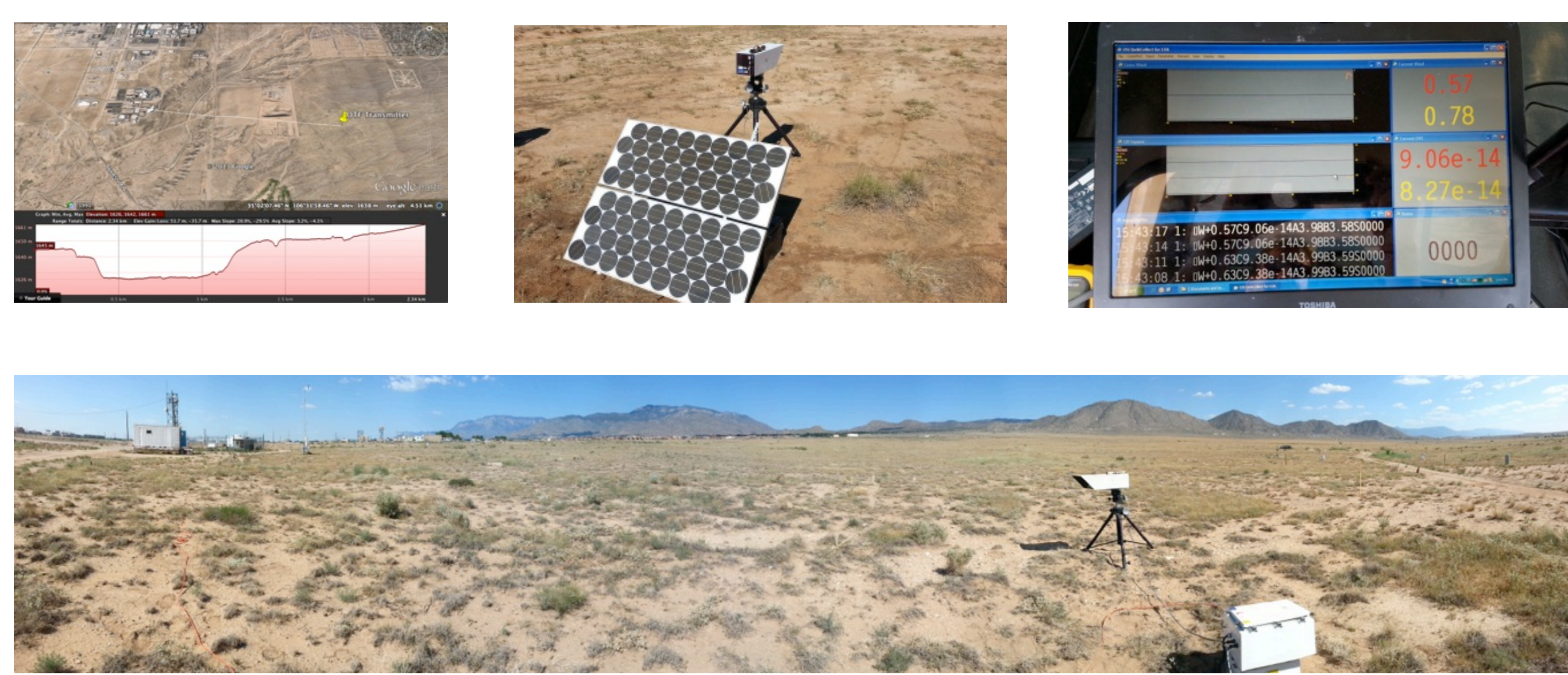
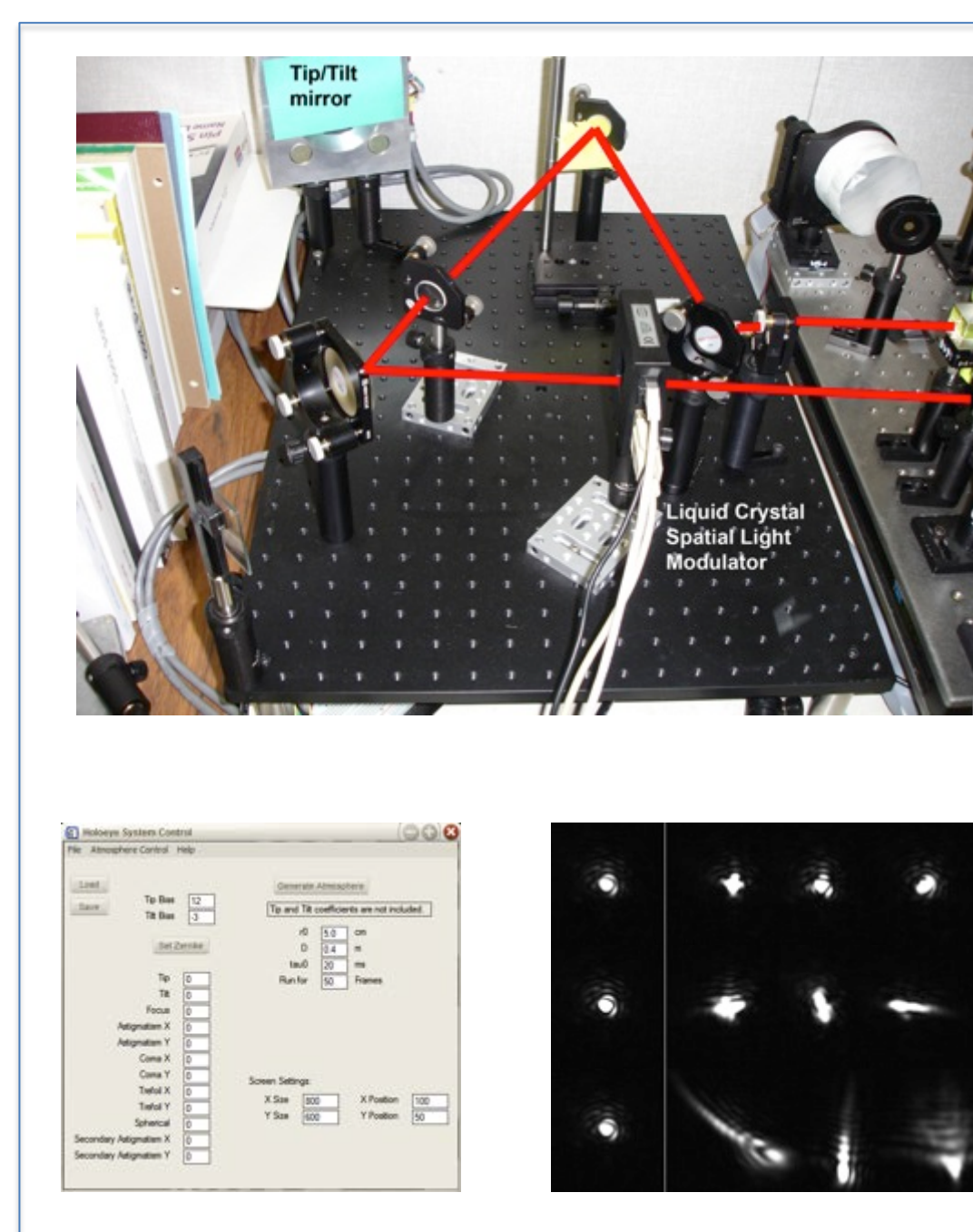


Long-range iris recognition



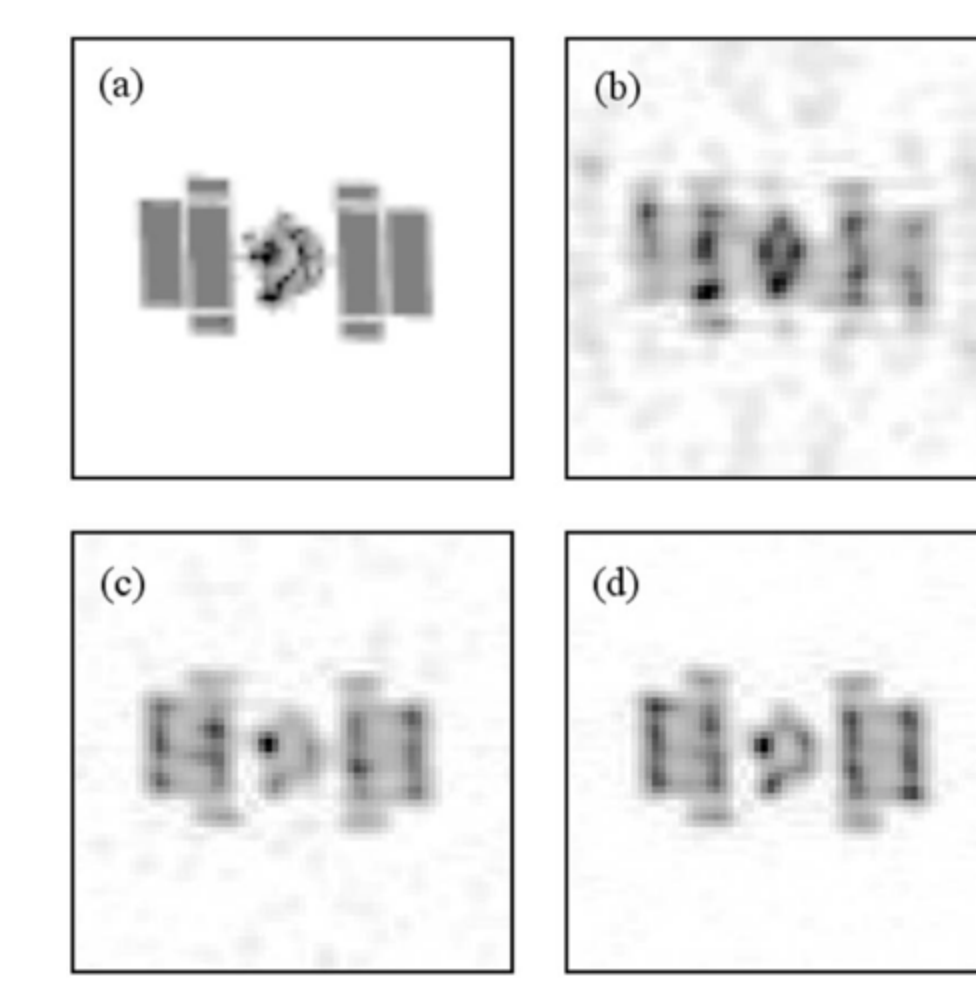
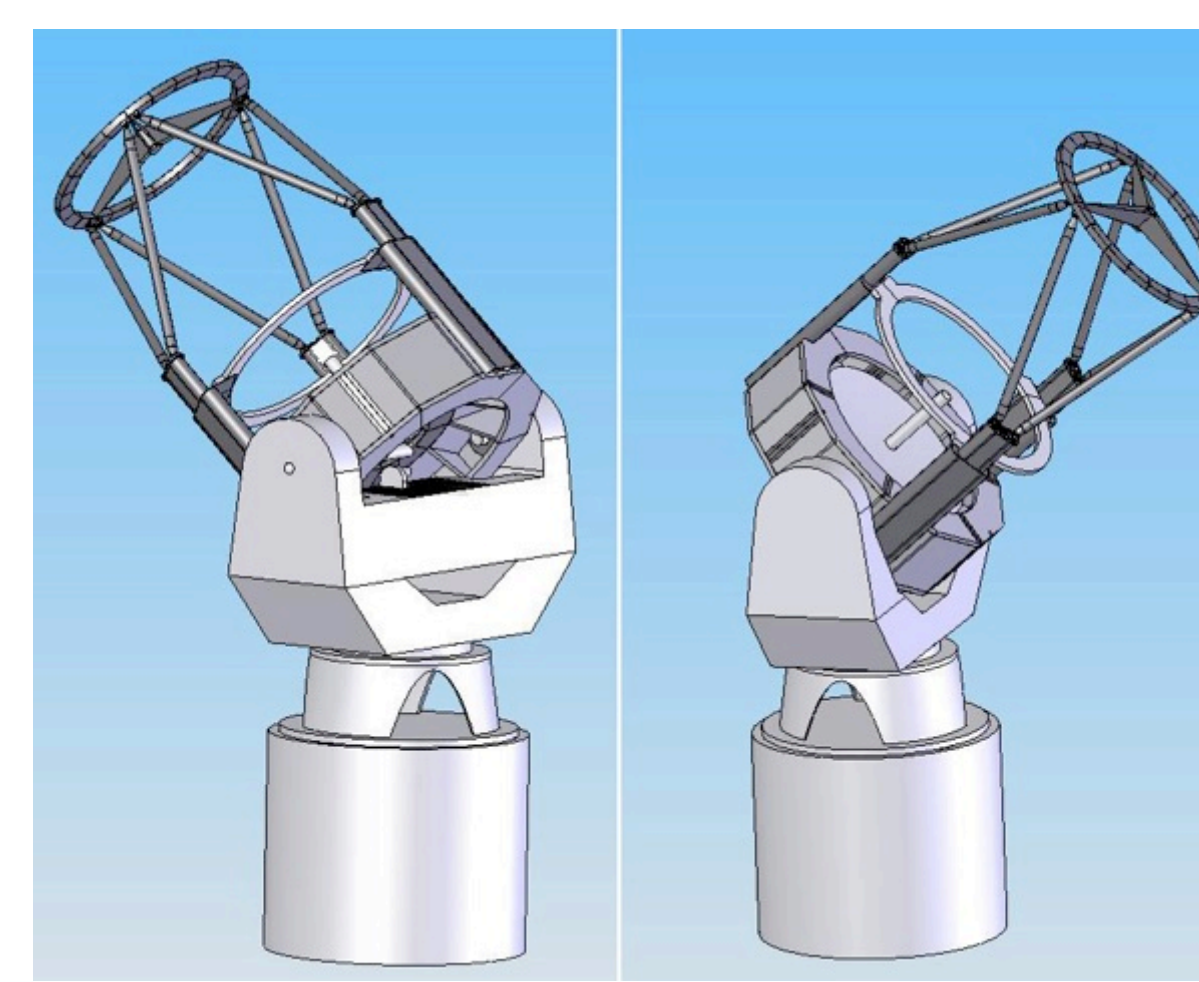
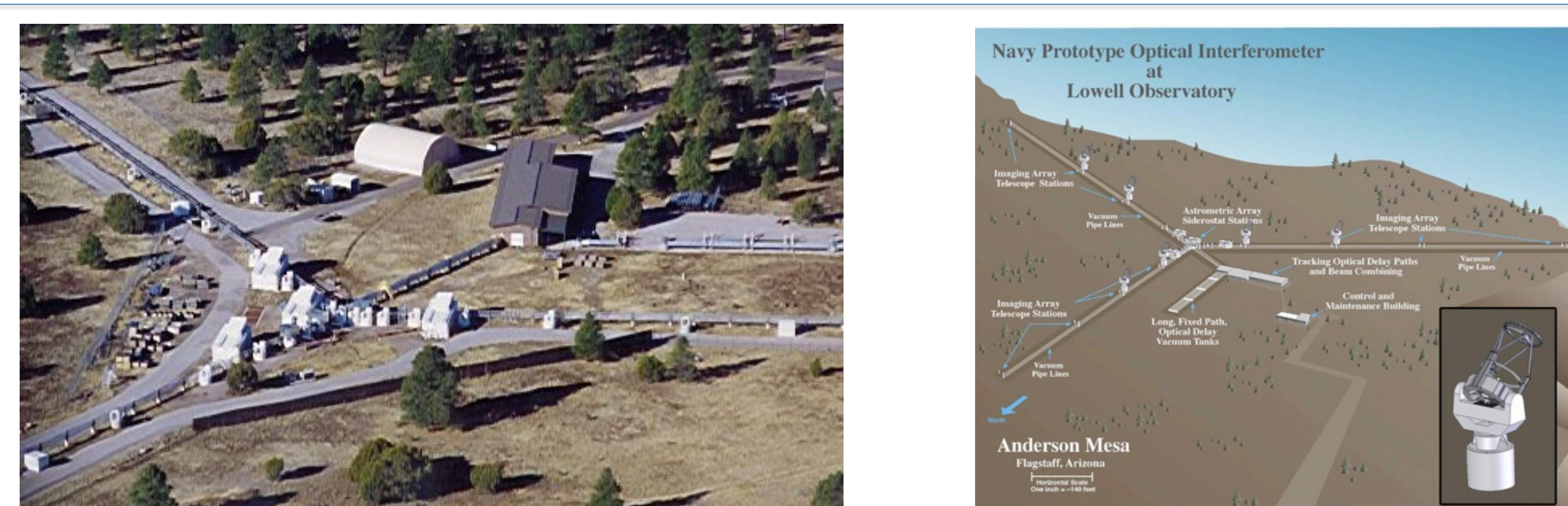
Atmospheric Turbulence Studies

- Atmospheric turbulence generation, simulation, algorithm, and software design
- Vertical and horizontal image paths
- Scintillation measurements
- Atmospheric characterization for system development



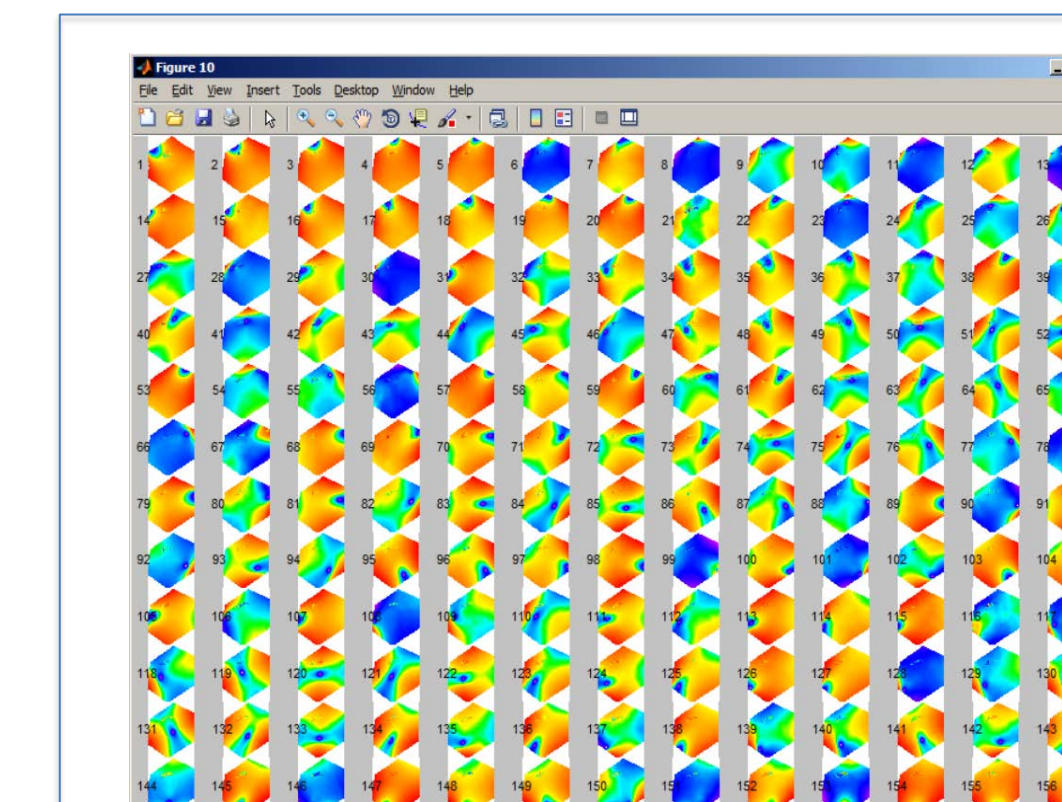
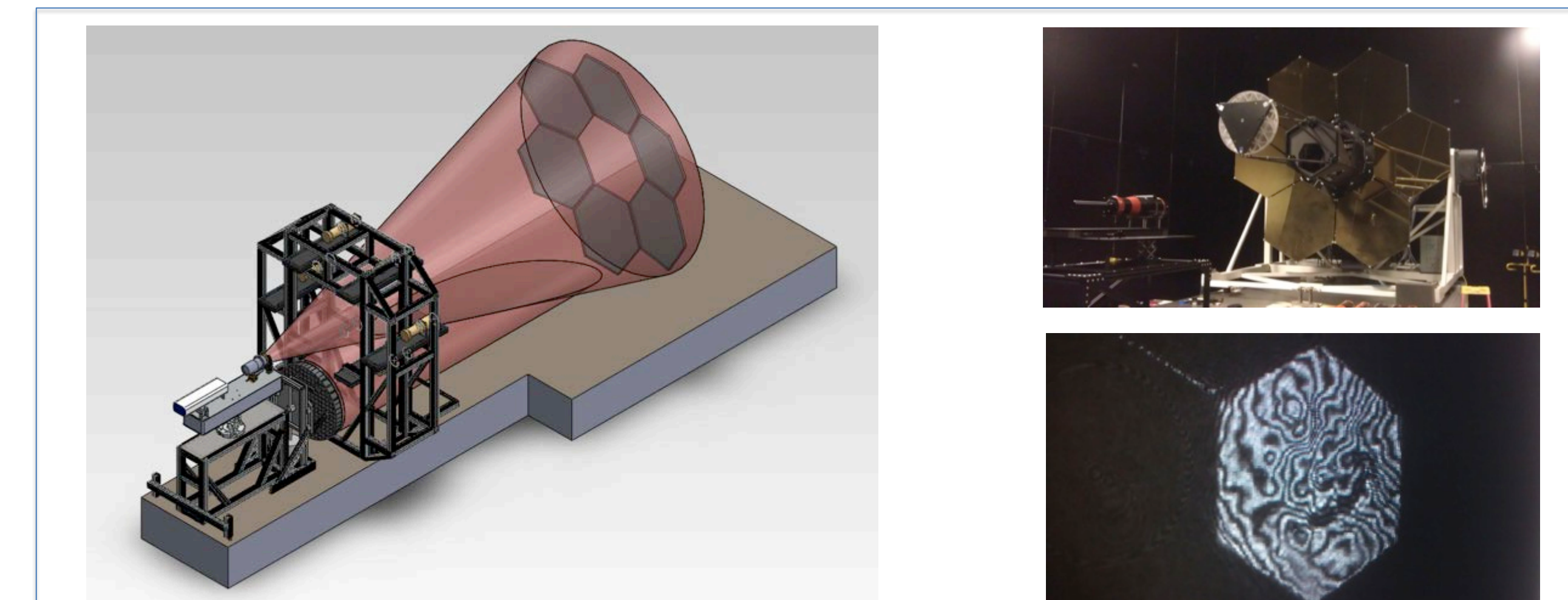
Optical Interferometry

- Naval Precision Optical Interferometer
- Upgrading siderostats to CFRP telescopes for light collection
- Geosynchronous satellite imaging



Naval Postgraduate School

- Segmented Mirror Telescope
- 3 experiments integrated in overall system
 - Center of curvature measurement of primary mirror
 - Phasing segments
 - 1 meter collimated beam to test aft optics



$$[S] = [I_m] \times [V]$$

$$\Rightarrow [V] = [I_m]^{-1} \times [S]$$

where,
 $[I_m]$ is the influence matrix measured
 $[S]$ is the desired surface
 $[V]$ is the necessary voltages needed