

### Periscope Requirements Review

Objective: Mount two large mirrors in a periscope orientation for folding the optical path behind a large refractive telescope with a large focal length.

#### Requirements:

- Mount 1 large mirror and 1 small mirror
- Mount periscope to Al plate
- Telescope has 8" aperture
- Telescope has 35" focal length
- Must be snap in design (for transportation)
- Must be stable to (XXX)Hz
- Top mirror must be centered at 15" in height
- Top mirror at 45°
- Bottom at -45°
- Tip/tilt adjustment
  - o Must be lockable
- Mirror surface must survive 10Watts peak pulsed power at 850nm
  - o Must have > 95% reflectivity at 850nm
- Mirrors cannot cause more than  $\lambda/10$  rms wavefront error

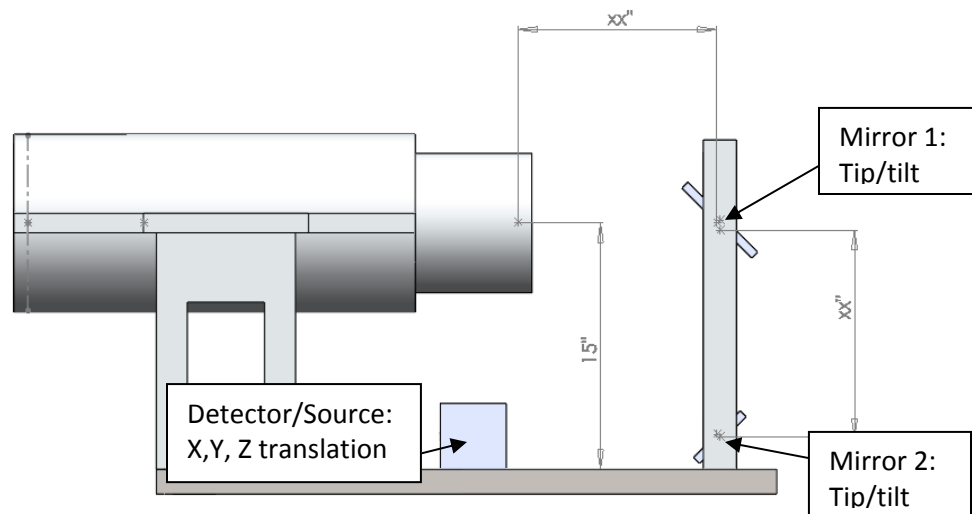


Figure 1: Idea of final design look (not to scale).



Figure 2: Telescope Picture (Test set up for schematic below Figure 2)

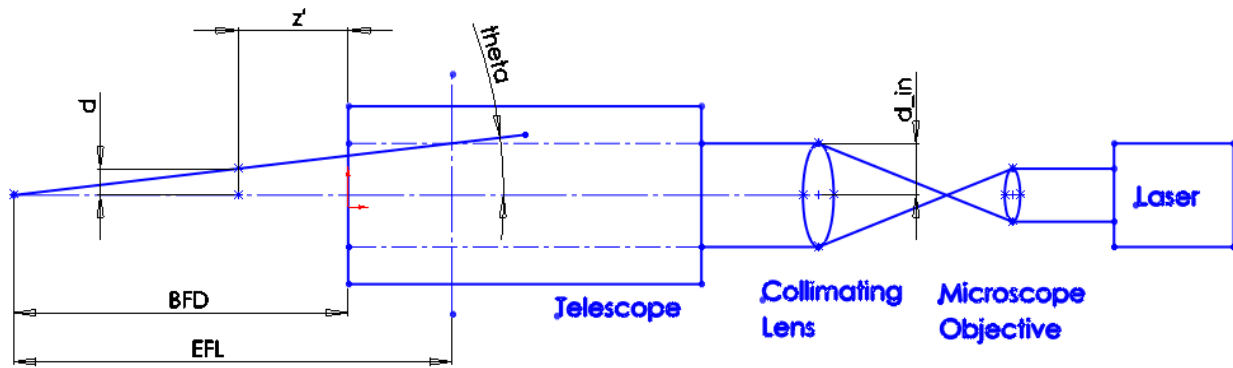


Figure 3: EFL Measurement Schematic from EFL test

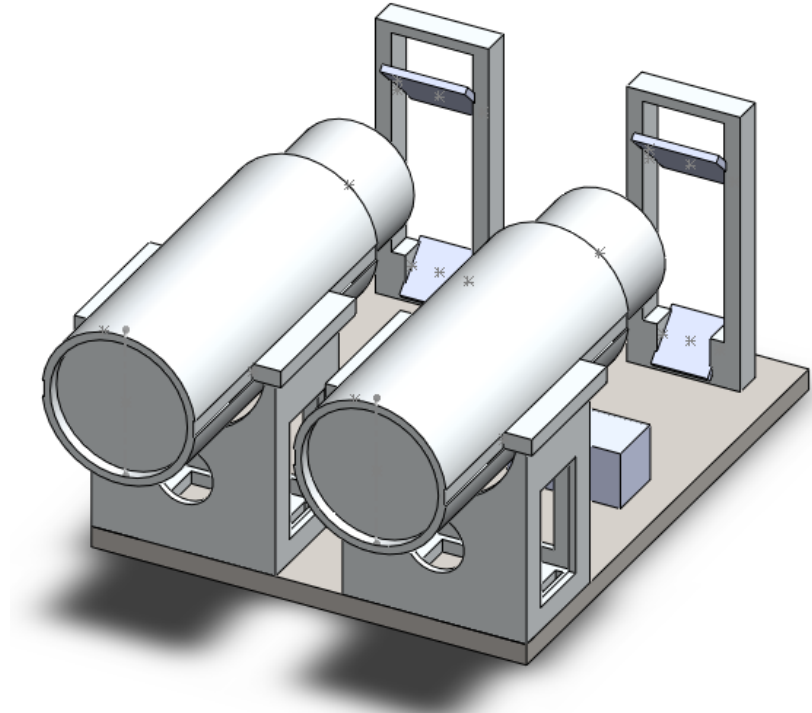


Figure 4: System Implementation