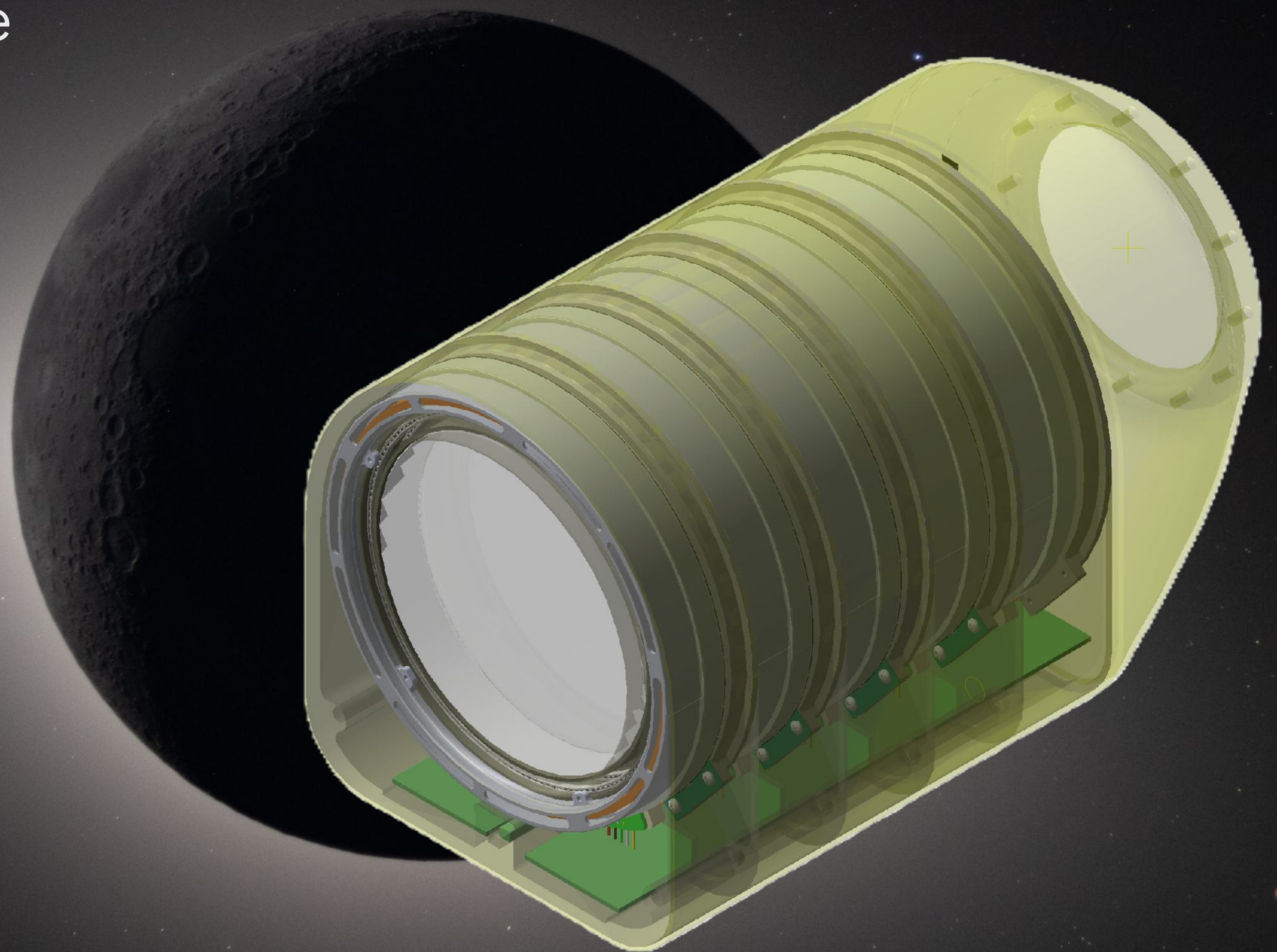


BEAM STEERING SYSTEM FOR HIGH PRECISION COMMS & IN-SPACE DATA CENTERS

Laser Comms are the future of in-space communications, capable of 10–100X the data rates as traditional RF, and with added security benefits. The SPS laser beam steering system uses a series of rotating, angled lenses to provide accurate beam pointing for in-orbit and downlink applications. This high precision, hollow shaft system is compact and lightweight. It incorporates SPS patent-pending ZNMA technology, so that no momentum from the steering system is imparted back onto the bus.



ACCURACY

0.005°

RESOLUTION

Current system is designed to hit a 1in² receiver on ground from GEO

OPTICS / LASER

Frequency agnostic with modifications: flexibility with lens change for multiple types of beams (laser, infrared, VIS, etc.) NDA required for current capabilities.

SIZE

3kg mechanism (5kg with lenses); 7.5in diameter and 9in long. System is scalable depending on mission requirements.

BUILT-IN ELECTRONICS

AI control PCBs, are built-into system.

DESIGN

- Includes SPS proprietary ZNMA technology: no momentum is imparted onto the rest of the bus.
- Custom single HDRM locks down all motors for launch.
- Custom hollow shaft motors and encoders.

POWER CONSUMPTION

5W peak; 0.5W continuous

LIFETIME

MTTF analysis of 10 years

VOLTAGE

28 V (10–40V)

OPERATIONAL TEMPERATURE

-150C to +100C

