National Aeronautics and Space Administration

Orbital Debris Measurement Activities at the NASA Orbital Debris Program Office

J.-C. Liou

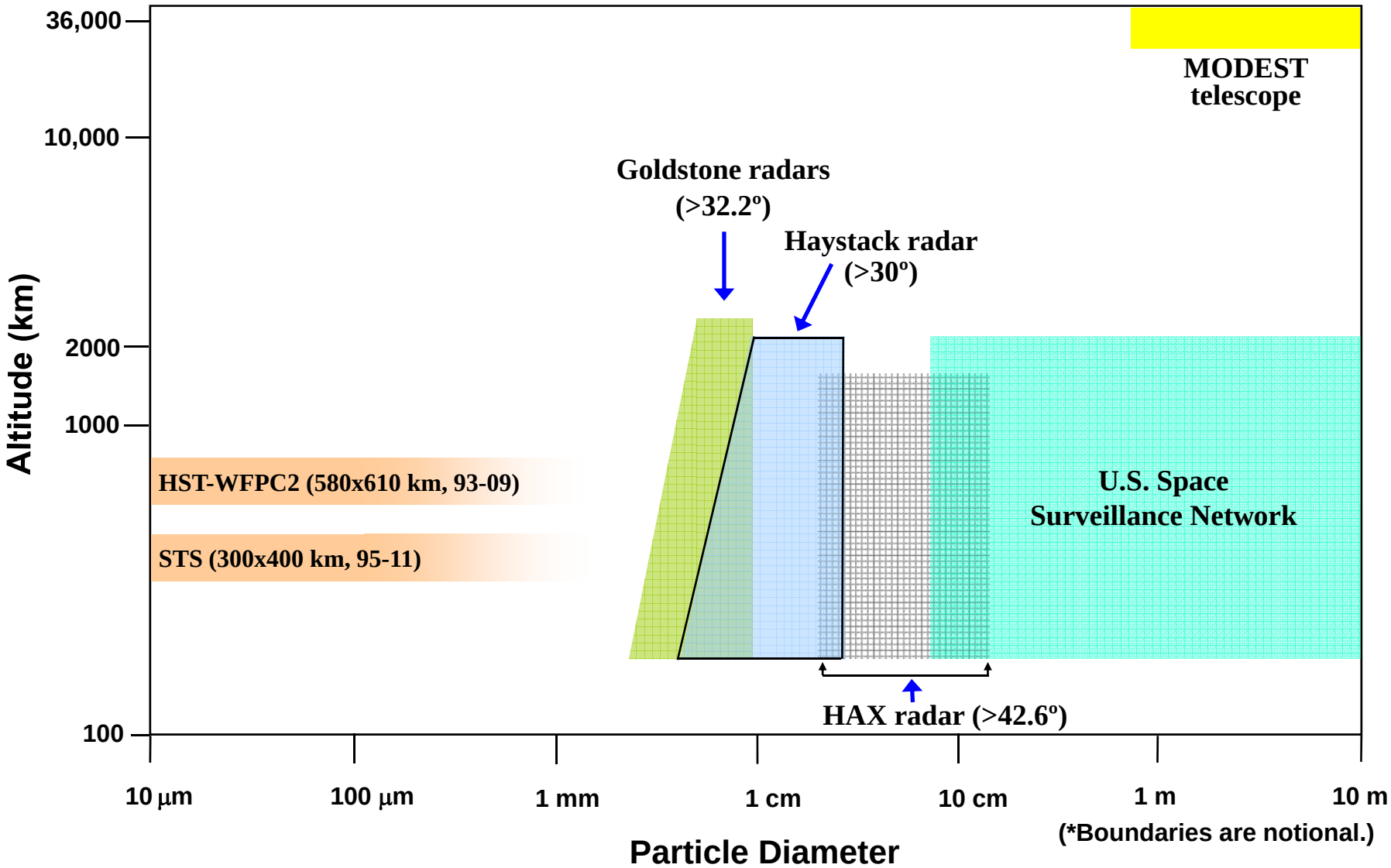
NASA Orbital Debris Program Office

NASA Johnson Space Center, Houston, Texas

28th International Symposium on Space Technology and Science (ISTS)

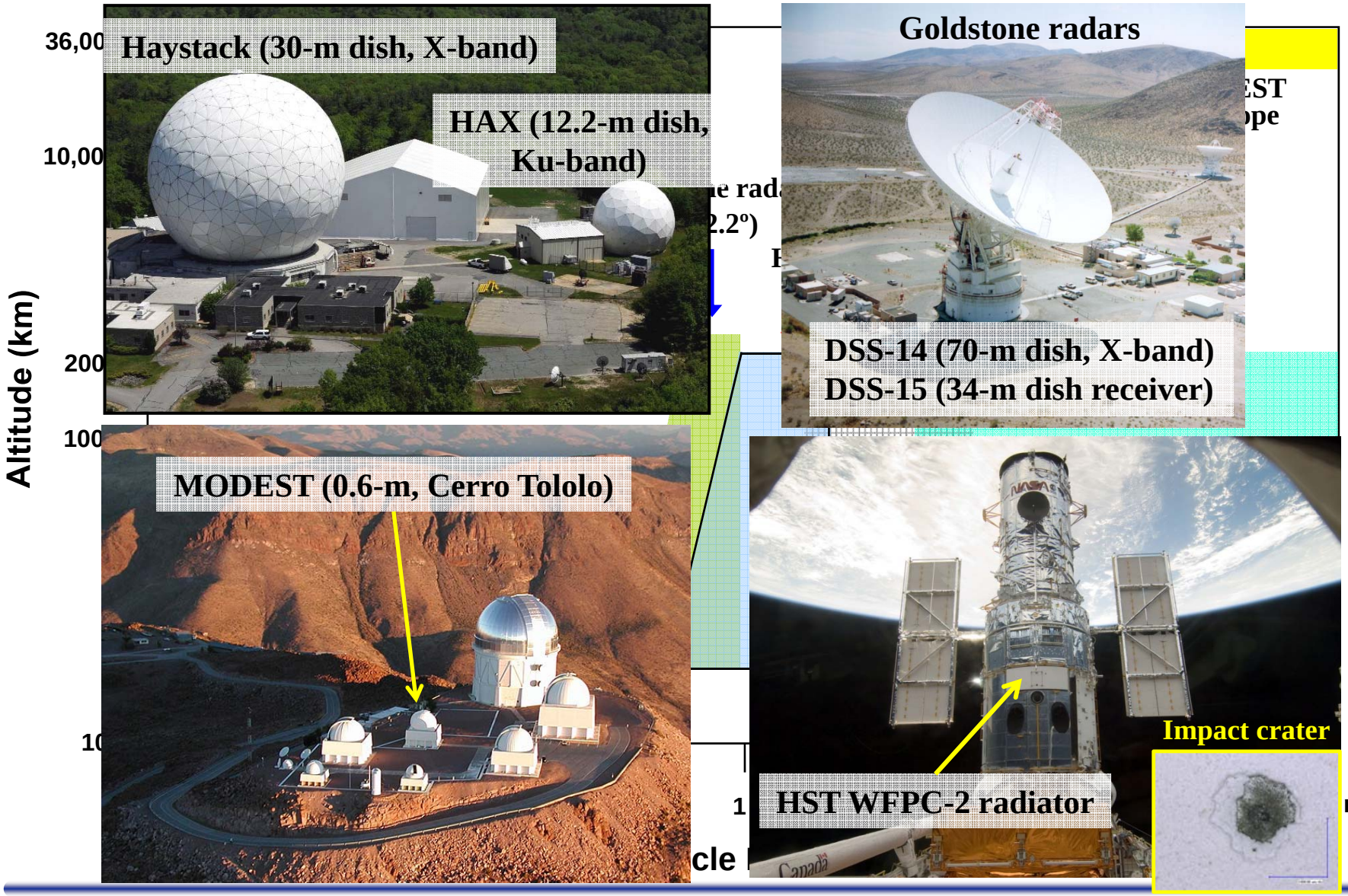
Okinawa, Japan, 6-10 June 2011

Current NASA Data Coverage* (1/2)



(*Boundaries are notional.)

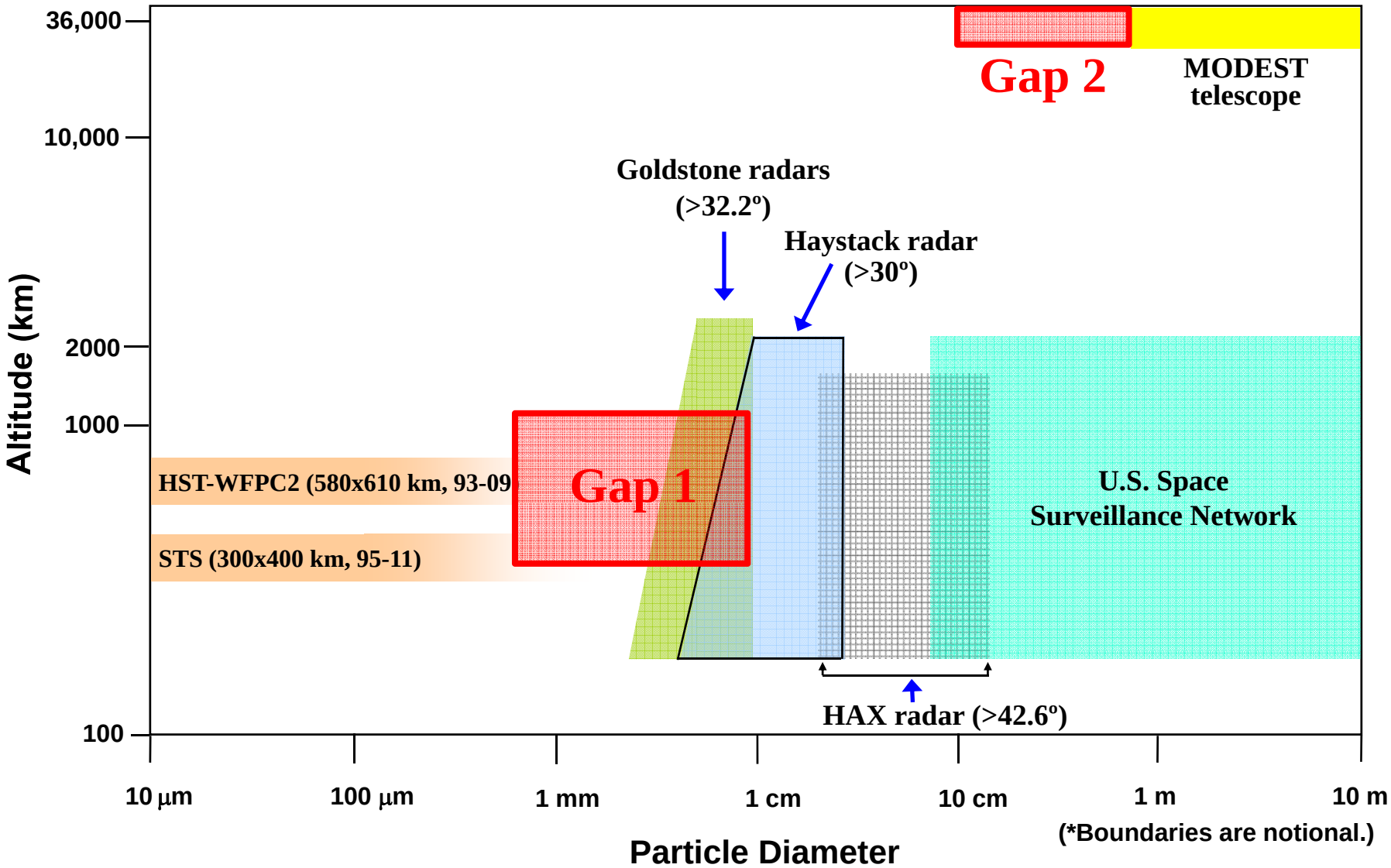
Current NASA Data Coverage (2/2)



Future NASA Debris Telescope

- **NASA Meter Class Autonomous Telescope (MCAT)**
  - 1.3 m aperture, 0.96° field of view, f/4
  - Located at Kwajalein Atoll (9°N, 168°E)
  - Target detection limits
    - **GEO ~10 cm diameter (20.5 V-mag)**
  - Primary objectives
    - **GEO debris down to ~10 cm**
    - **LEO debris with low inclinations and high eccentricities**
    - **Simultaneous radar-optical observations**
  - Expected operations ~2012

Critical Data Gaps



(*Boundaries are notional.)