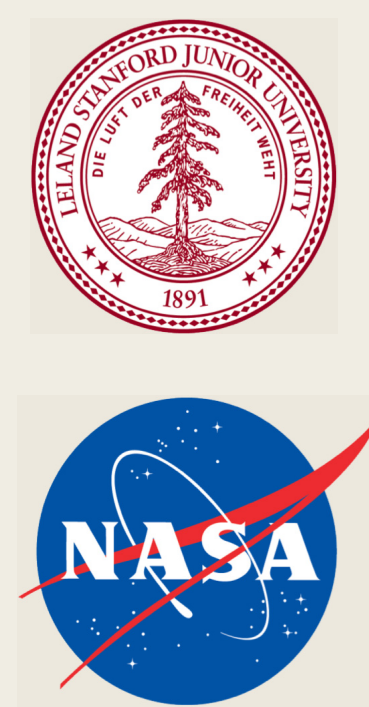


AN OVERVIEW OF THE GRAVITY PROBE B PROGRAM



C.W. Francis Everitt and the Gravity Probe B Team

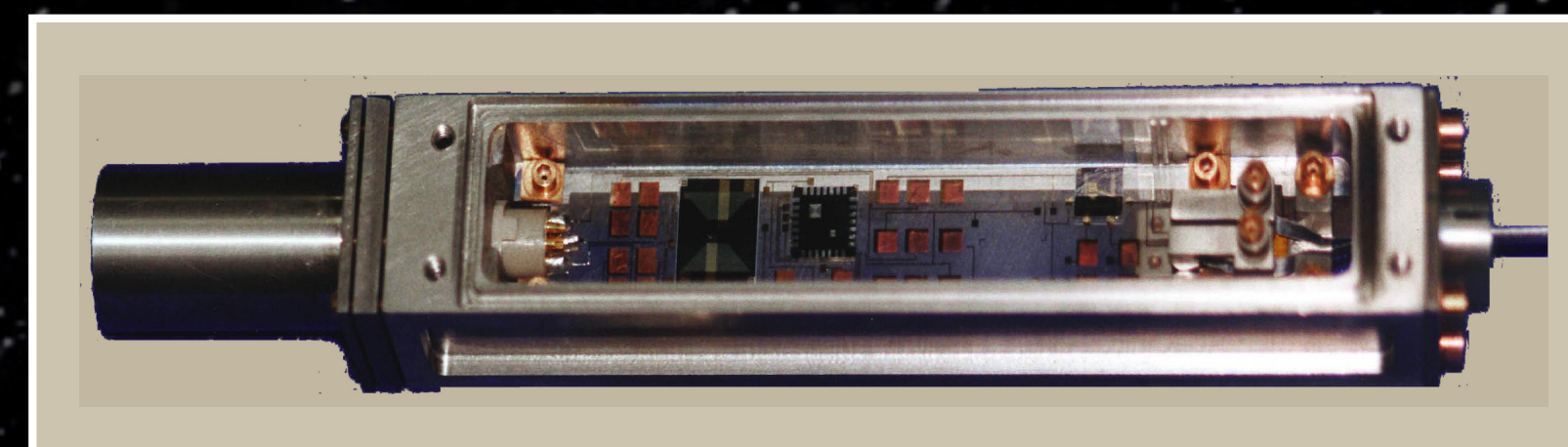
Missions Operations Center



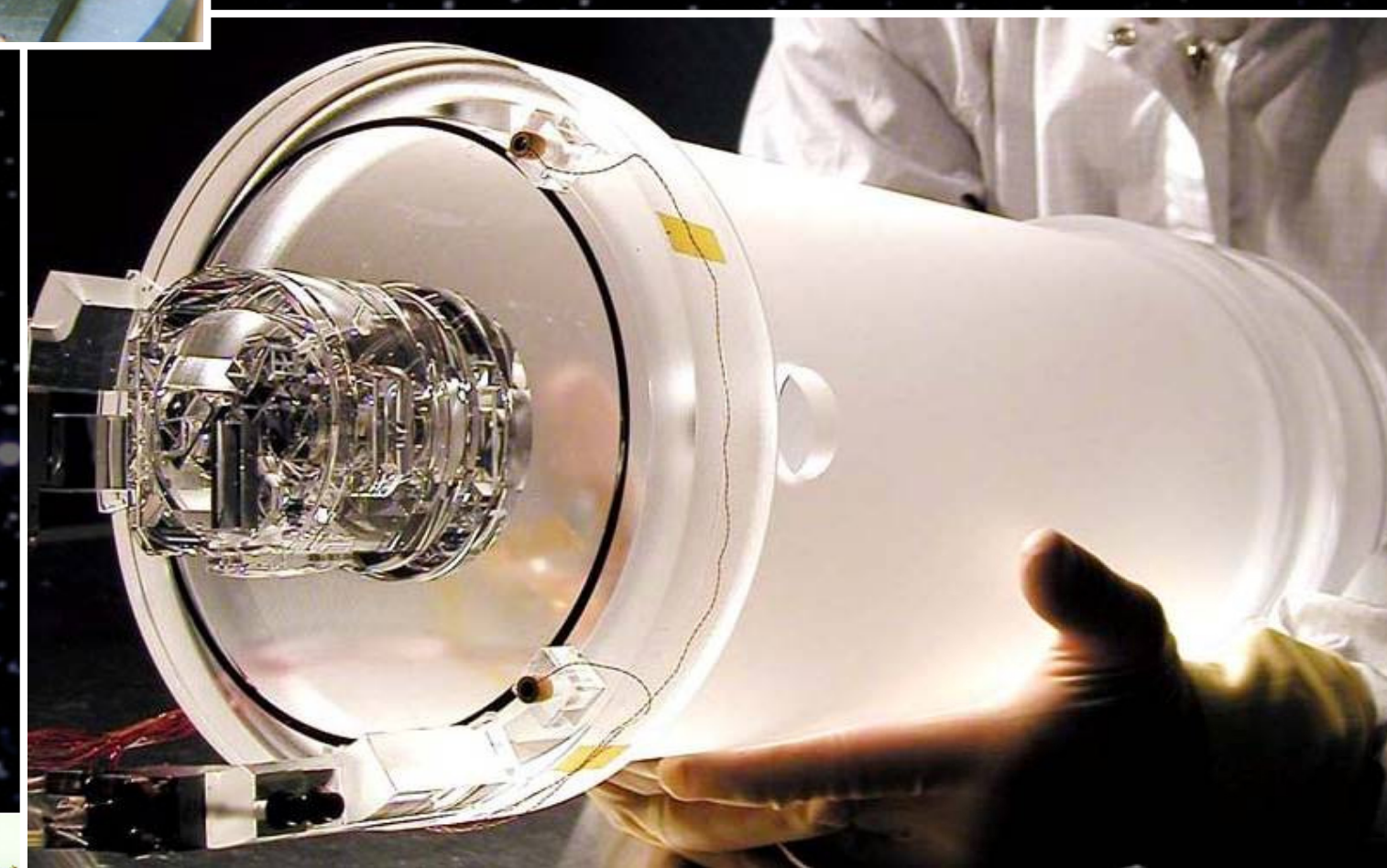
Detector Package



SQUID sensor and package



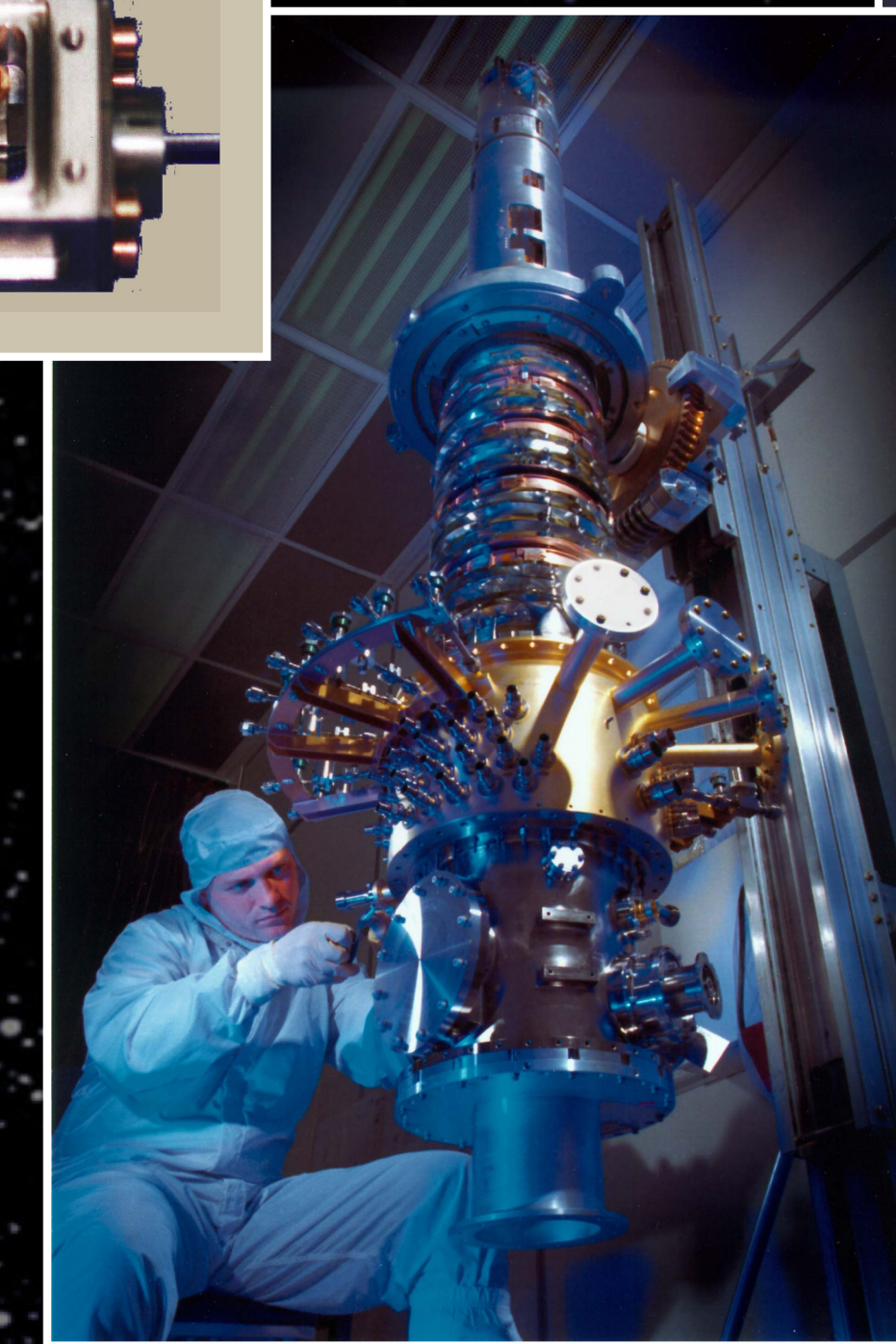
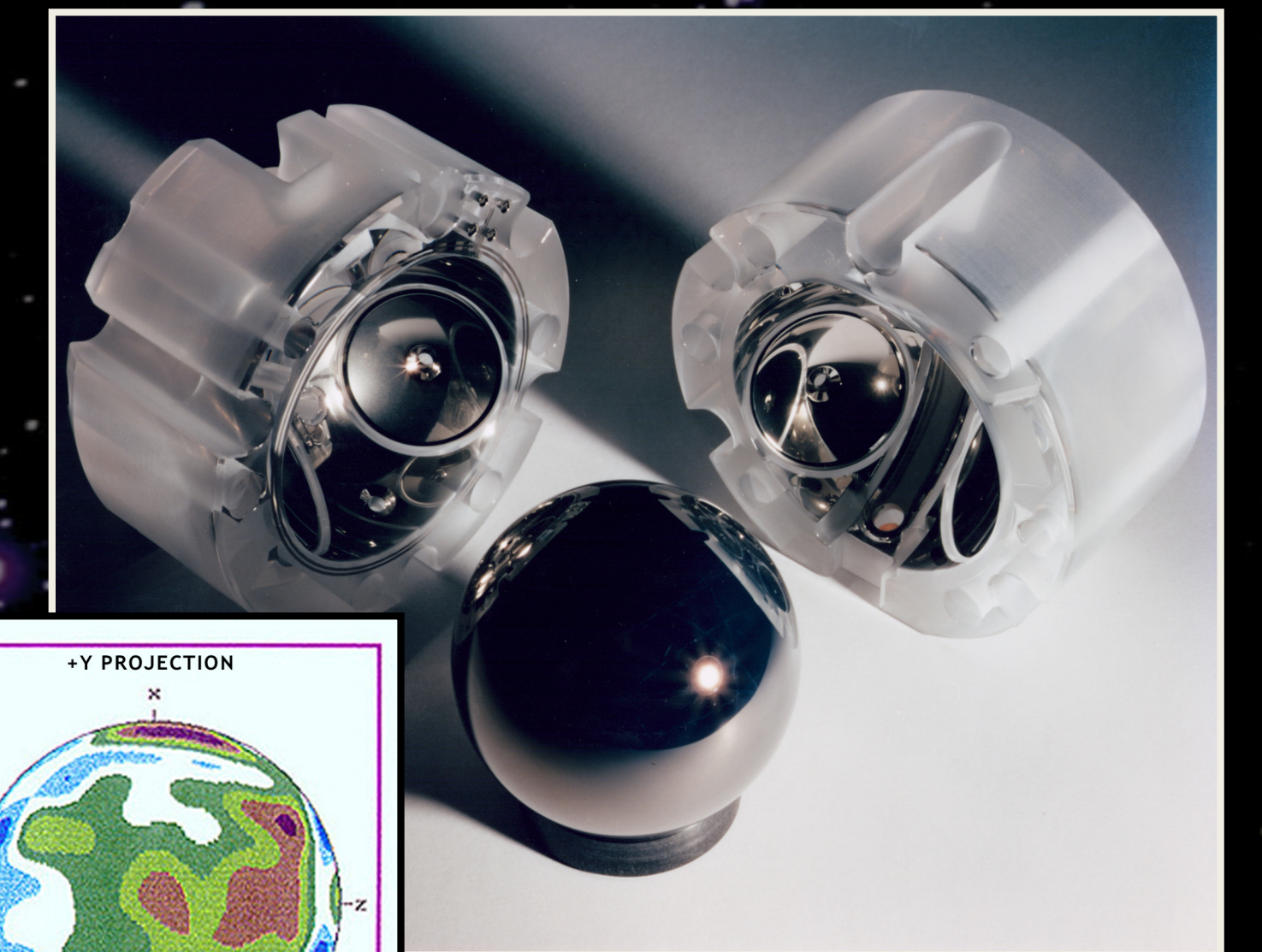
Guide Star tracking telescope



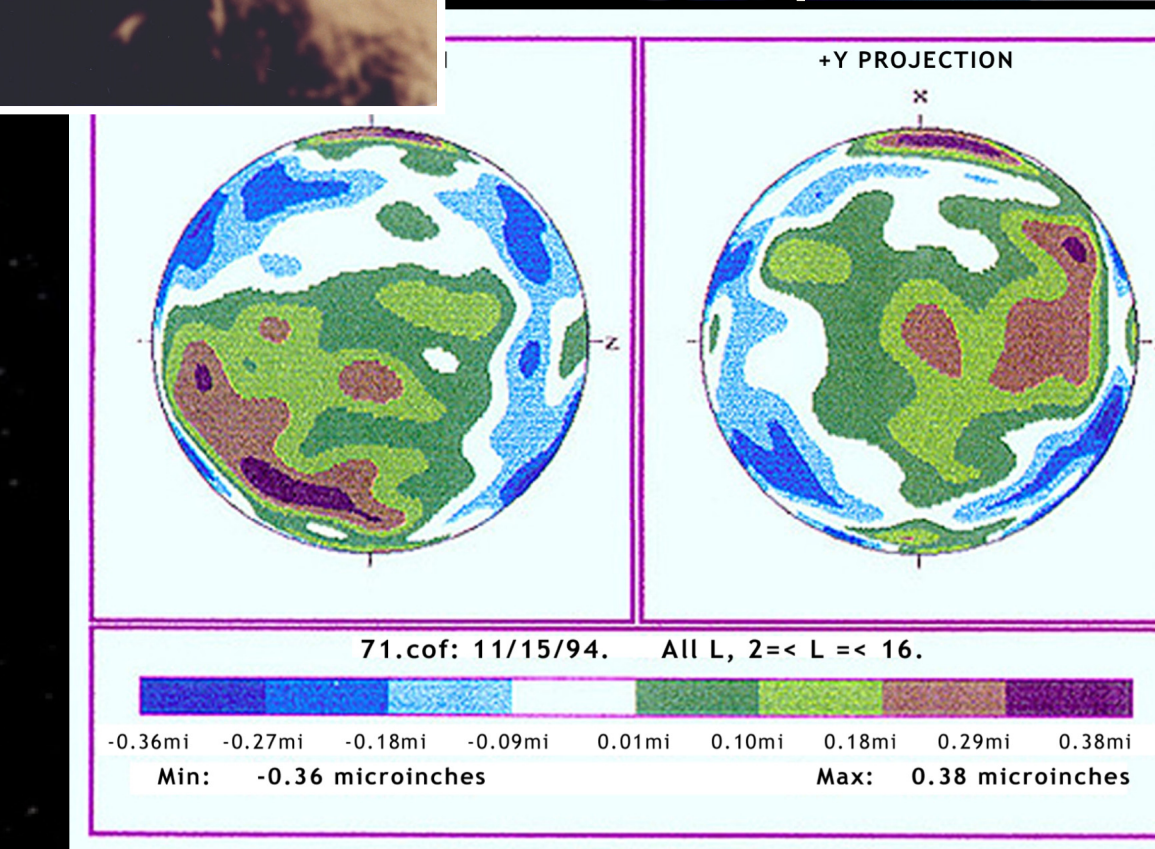
World's roundest spheres



Gyroscope and housing



Probe during assembly



Rotor topology

Launch: 20 April 2004



Initial Orbit Checkout (IOC): 128 days
 Science Phase: 353 days
 Post-experiment tests: 46 days

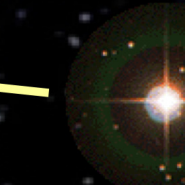


Vehicle on Booster



645-gallon Dewar

Guide Star
 IM Pegasi
 HR8703



Frame Dragging Precession:
 39 marc-sec/year
 in Equatorial plane

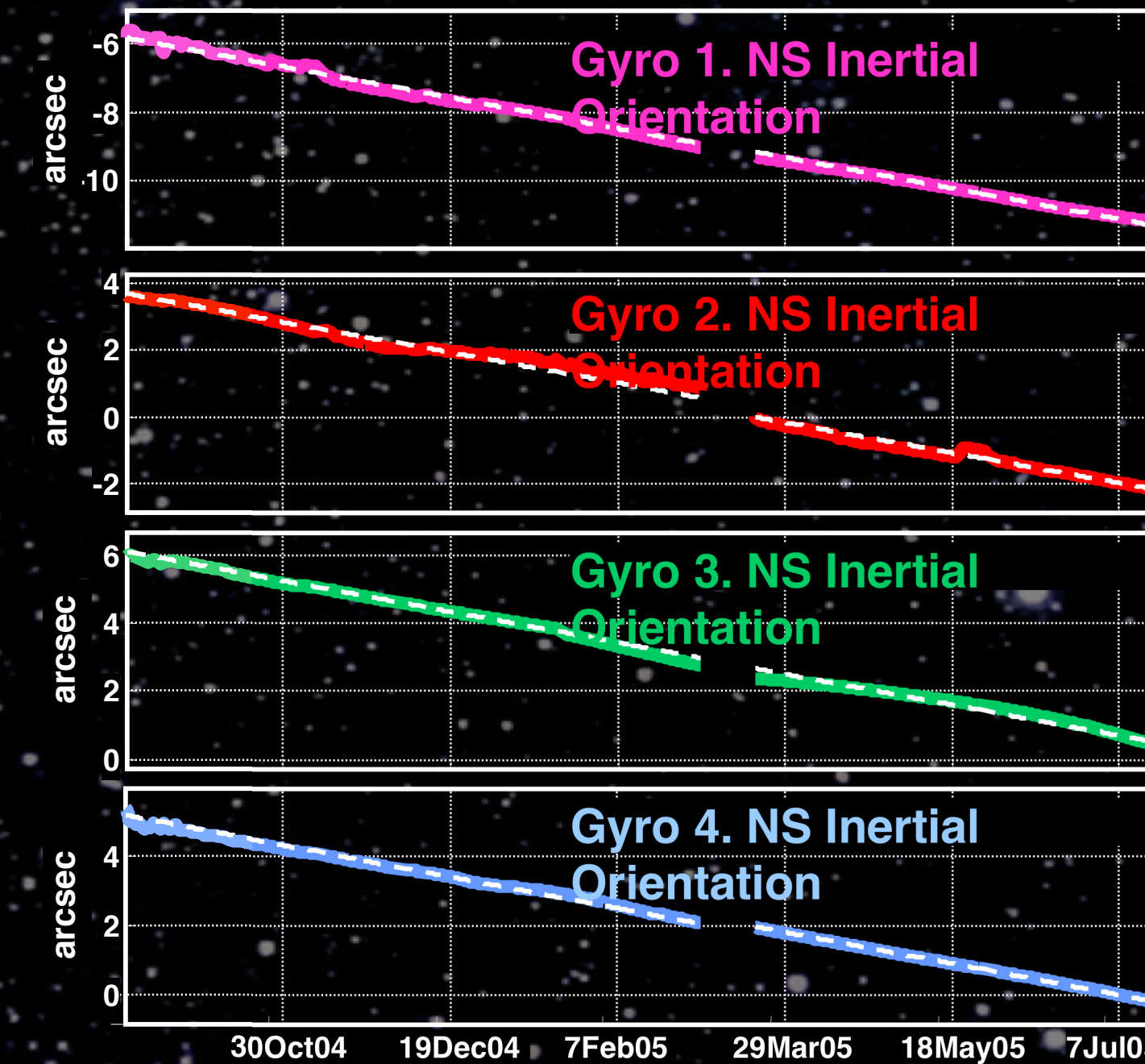
Geodetic Precession:
 6,606 marc-sec/year
 in orbital plane

642 kilometers
 (~400 miles)



GP-B Team Receives NASA Award, 2005

First results – Geodetic Precession



$$\Omega = \frac{3GM}{2c^2 R^3} (R \times v) + \frac{GI}{c^2 R^3} \left[\frac{3R}{R^2} (\omega \cdot R) - \omega \right]$$

