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### **Gravity Probe B**

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Gravity Probe B is a space-based, controlled physics experiment designed to measure the geodetic and frame-dragging effects predicted by the General Theory of Relativity. The experiment consists of measuring the precession of the spin axis of four redundant, nearly perfect gyroscopes relative to a distant reference star, IM Pegasi. The spacecraft was launched into a 642 km polar orbit on April 20, 2004 from Vandenberg, CA, USA. During the first four months on-orbit the spacecraft was configured to carry out the experiment. Hundreds of operations were performed including using an on-board telescope to lock on to the reference star and spinning up each of the gyroscopes to 60-80 Hz. Since late in August, 2004 the instrument has been collecting the core science experiment data. Instrument calibrations before, during, and after the core science phase allow placing tight limits on systematic errors.