

The Gravity Probe B Relativity Mission: On Orbit Performance and Data Analysis Plan

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The Gravity Probe B Relativity Mission was successfully launched into a 642 km polar orbit on 20 April 2004. The data gathering phase was completed on 29 September 2005 after 527 days of cryogen life. The mission is designed to test two predictions of General Relativity by comparing the precessions of gyroscopes to the line of sight of a distant guide star. This paper will outline the on-orbit performance of payload and spacecraft systems. Special emphasis will be given to science gyroscope instrument design and to the set-up, calibration, and tuning of drag free and attitude control. An overview of the science analysis plan will be presented. Data analysis is expected to be complete in early 2007.