

One Step Away From Revealing If Einstein Was Right [again]

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Putting Relativity To The Test, NASA's Gravity Probe B Experiment
Is One Step Away From Revealing If Einstein Was Right

<http://www.sciencedaily.com/releases/2005/10/051007100202.htm>

Almost 90 years after Einstein postulated his general theory of relativity -- our current theory of gravity -- scientists have finally finished collecting the data that will put this theory to an experimental test. For the past 17 months, NASA's Gravity Probe-B (GP-B) satellite has been orbiting the Earth using four ultra-precise gyroscopes, about a million times better than the finest navigational gyroscopes, to generate the data required for this unprecedented test. As planned, the helium that cooled the experiment and powered its micro-thrusters has run out, ending the data-collection and final instrument calibration phase of the experiment. All the data\u20141450 weeks' worth\u2014has been downloaded from the spacecraft and relayed to computers in the GP-B Mission Operations Center at Stanford University, where GP-B scientists have begun the final painstaking task of data analysis and validation. Was Einstein correct? They won't know for another 15 months, when the analysis has been completed, but physicists around the world are eagerly awaiting the results.

"This has been a tremendous mission for all of us," said Stanford's Francis Everitt, GP-B's principal investigator. "Gravity Probe B presented many challenges along the way and the team rose magnificently to every occasion. With all the data now gathered, we are now proceeding very deliberately over the next 15 months to make sure that everything is checked and re-checked in as many ways as possible. NASA and Stanford can be proud of what has been achieved so far."

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