



GRACE Follow-On: Current Mission Status and next steps

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The GRACE Follow-On mission is set to continue the successful data record from the original GRACE mission, which ended in mid-2017 after 15 years of successful operations and science discoveries. In 2010, NASA (US) and GFZ (Germany) agreed to jointly develop and support the GRACE Follow-On mission to ensure data continuity, as well as to demonstrate a new Laser-Ranging Technology on orbit. The two GRACE Follow-On spacecraft were integrated by Airbus Defense & Space (Germany), and transferred in fall 2016 to the IABG test center in Ottobrunn near Munich. At IABG, various tests of satellite and instrument operation and performance have been conducted including all necessary environmental tests to survive launch conditions and to successfully operate under space conditions.

The Assembly and Test Phase was successfully completed in November 2017 with the Pre-ship Review, and the satellites were then transported to Vandenberg Air Force Space on December 12 to be prepared for a rideshare launch with Iridium-Next satellites on a SpaceX Falcon-9 in spring 2018.

In parallel, the project has performed updated simulations of the expected GRACE Follow-On performance on-orbit, including intersatellite ranging (both microwave and laser interferometer), accelerometer, thermal variability and deformation, and other instrument errors. The simulated data have been used at JPL, UT-CSR, and GFZ for fully integrated end-to-end Science Data System testing from Level-1 through Level-3 data and to improve necessary ground analysis software. The concluding Operations Readiness Review is scheduled for January 18 and 19 at the German Spaceflight Operations Center in Oberpfaffenhofen.

In this presentation, we will provide the detailed status update of the project integration and tests, the latest results of expected science performance, and the schedule of the post launch checkout and early operations phases of the GRACE Follow-On mission and science payloads.