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The GRACE follow-on Laser Ranging Instrument

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In order to continue observing the spatial and temporal gravity field variations measured by the Gravity Recovery and Climate Experiment (GRACE), a follow-on mission is planned to be launched in 2017. An important instrument on the GRACE satellites is the microwave ranging system which measures the variations of the distance between the two satellites. Laser interferometry is a promising way to improve the intersatellite ranging accuracy by approximately an order of magnitude. For GRACE follow-on the inclusion of a Laser Ranging Instrument in addition to the main microwave ranging system is currently planned in order to demonstrate the technology. In addition to improved intersatellite ranging performance the implementation of the laser ranging instrument for GRACE follow-on provides a unique opportunity to compare and validate the two ranging systems. An overview of the Laser Ranging Instrument for GRACE follow-on will be given.