

Recent Progress on the OMEGA Mission

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ABSTRACT: The OMEGA mission is a proposed space gravitational wave mission whose purpose is gravitational wave observations in the low frequency band from 1 sec to 10^4 secs. A technology development program is now under way that includes: 1) a laboratory end-to-end test of the laser tracking system that will read out the gravitational-wave-induced phase shift to one millionth of a cycle, and 2) an in-space test of a drag free system on the Orbiting Drag-free **International Explorer (ODIE)**, testing the operation of a new design single-axis accelerometer and using Field Emission Electric Propulsion (**FEED**) thrusters for the first time in a drag-free satellite.