Precise gravity measurement on the seafloor and under water

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We are developing marine gravimeters for precise measurements 10^-8 (10 microgal) like land gravimetry. Firstly we have developed an ocean bottom gravimeter with free gimbal suspensions in order to carry out sea bootom geavimetry as accurately and as easy as on land. Observed data on the seafloor show that gravity can be measured with a resolution of 10-20 microgals if the gravimeter is not disturbed. Institute of Industrial Science, University of Tokyo, has been developing a large underwater roboto (R-One Robot). We are now developing a high precision underwater gravimeter to be installed on the robot. We plan to use a gravity sensor modified from a land gravimeter; it will have a wider dynamic range and stronger feedback.