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Design and Test of a superconducting levitation system for gravity measurement

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A high precision superconducting levitation system for gravity measurement has been developed which used the levitation of a superconducting sphere by the magnetic field of two superconducting coils. The magnetic levitation is designed to provide independent adjustment of the levitating force and the force gradient. A GM cryocooler is employed to cooldown the system. This article reviews the construction and operating characteristics of the system. The test results show that the system is allowed at least 10-10g sensitivity.

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