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A 6DOF microvibration isolation, measurement and generation facility

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The National Physical Laboratory (UK) has developed and delivered a novel 6 degree-of-freedom micro-vibration test system for the European Space Agency's test centre, ESTEC. The system measures the dynamic force and torque produced by spacecraft components between 10 μN to 1 N (1 μNm to 1 Nm), and subjects sensitive specimens to a known micro-vibration environment in the range 1 μg to 10 mg. The facility is traceable to the SI, and actively isolated from seismic noise. The operating principles and mechanical design of this test system are outlined, and some indicative results from validation testing are shown.

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