

Abstract Submitted
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Magnetic suspension system for measuring drag on a sphere in superfluid helium¹ ALI HEMMATI, SYLVIE FUZIER, STEVEN VAN SCIVER, Florida State University — An apparatus to investigate oscillation of a 3 mm niobium sphere in superfluid helium has been built. A Nb-Ti superconducting solenoid is used to suspend a sphere made of niobium; meanwhile a similar superconducting quadrupole magnet centers and helps to stabilize the ball at one location in the flow channel. The niobium sphere is levitated by the superconducting magnetic suspension system; then the oscillation is obtained by dropping the ball from one equilibrium point to a lower equilibrium point via reducing the magnetic field. The sphere's oscillation is then recorded with a high-speed video camera. Drag force is calculated through its relation to the maximum velocity decay rate.

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