Drag Forces at mK Temperatures of Multiple Resonating Wires, Including Frequency Dependency.(LT26)

L. Munday, M. Kumar, M. Poole, and S. Fisher

Department of Physics, Lancaster University, Lancaster, United Kingdom

We have used various wire resonators and "floppy" devices to investigate the drag forces in Superfluid He-4 at milli-kelvin temperatures. We compare the force-velocity relationships for the different devices, showing the onset of the quantum turbulent regime. A "floppy grid" device was driven at various frequencies over the range of 3Hz to 100Hz; it was found that the drag force was not frequency dependent. We also present measurements showing how quantum turbulence produced by one device will directly affect another.