

For the first time, a cylinder of rectangular cross section, performing quasi-harmonic oscillations in liquid helium, was employed for the experimental study of the dynamics of macroscopic vortex structures shed at the sharp edges of the obstacle. The flow of liquid helium was visualized by the motion of small, solidified deuterium particles, dispersed in the experimental cell and illuminated by a thin laser sheet. Experiments in He I, a classical viscous fluid, and He II, a fluid displaying superfluidity, showed, at low frequencies of the oscillating body, a significant difference in the flow, possibly due to the much larger heat conductivity of He I, compared to He I. At large frequencies, the flows appeared instead to be similar, which agrees with the current understanding of quantum flows, at large enough length scales.