

High speed imaging of generation and collapse of multielectron bubbles in liquid helium

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We study the generation and collapse of multielectron bubbles in liquid helium. We apply voltage pulses to a tungsten tip above the surface of the liquid, which results in the formation of mm sized dimples. Using high speed photography, we image the oscillation and disintegration of the dimples to bubbles of approximate sizes of few hundred microns. We believe these are multielectron bubbles (MEBs), each containing about 10^7 to 10^8 electrons. The MEBs were observed to travel downward for a short time till they disintegrated into smaller bubbles.

Section: QF - Quantum Fluids

Keywords: multielectron bubbles, electrohydrodynamic instability