Air bubble break-ups by vertical oscillations in micro- and normal gravity environments

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Influence of surrounding liquid viscosity is investigated by experiments with surrounding liquids of different viscosities. An increase of kinematic viscosity by a factor $10^2$ (from 1 cSt to 100 cSt) is found to lead a 2-2.5 times larger critical acceleration in both environments. Experimentally obtained critical accelerations are discussed, being compared with a simple model based on hydrodynamic instability of an accelerated interface.

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