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**Numerical simulation of ultrasound-induced dynamics of a gas bubble neighboring a rigid wall** TATSUYA KOBAYASHI, KEITA ANDO, Department of Mechanical Engineering, Keio University — Cavitation erosion has been a technical issue in ultrasonic cleaning under which cavitation bubbles appear near target surfaces to be cleaned. In the present study, we numerically study the interaction of ultrasonic standing waves with a gas bubble in the neighborhood of a rigid wall. We solve multicomponent Euler equations that ignore surface tension and phase change at interfaces, by the finite-volume WENO scheme with interface capturing. The pressure amplitude of the ultrasound is set at several atmospheres and the ultrasound wavelength is tuned to obtain the situation near resonance. In the simulation, we observe jetting flow toward the rigid wall at violent bubble collapse that may explain cavitation erosion in ultrasonic cleaning.

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