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Single bubble bouncing on a free surface and effect of the rising velocity and surface tension TOSHIYUKI OYAMA, University of Tokyo, SHINTARO TAKEUCHI, SHU TAKAGI, YOICHIRO MATSUMOTO — The paper presents a numerical study of bubble bouncing on a free surface with a front tracking method. Contact time is determined as: the duration, within which the length between the mass center of the bubble and the initial position of the free surface is less than the initial bubble radius. The contact time is one of important values in the view of bouncing mechanism predicted by mass-spring modeling. The contact time is relational to the -0.5 power of surface tension coefficient as well as the prediction by mass-spring modeling. This result supports assumption that stored energy due to shape change is dominant to phenomenon of bubble bouncing rather than drainage between films. In the presentation we will refer the relation between the distance of two films between the free surface and the bubble and resolution.

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