

Abstract Submitted
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Oscillating Effects on the Bubble Induced by A Free Falling Drop¹

AN-BANG WANG², C.-C. KUAN, P.-H. TSAI, Institute of Applied Mechanics, National Taiwan University — The impact of a droplet on a liquid pool can result in different fantastic phenomena. Many investigations have been conducted since decades; however, none has been studied for the effects of oscillating drop on the big bubble induced by the impacting droplet since Worthington (1908). In the present study, big bubble induced by the droplet impact has been experimentally studied and systematically analyzed. Effects of impact velocity, drop size, oscillation parameters and depth of target liquid have been investigated and discussed. New characteristic regimes in the V (impact velocity)- d (diameter of droplet)-map have been discovered. Two geometry parameter oscillation parameters sharpness-ratio and offset-ratio of the free-falling droplet have been found to be the most important controlling parameters. Their results are revealed and compared in this study.

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