

||||| 特集 2 : 最近の浮遊技術を利用した熱物性および構造測定 |||||
(解説)

音場による流体制御のための超音波発生システム

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Development of Ultrasonic Acoustic System for Bubble and Liquid Control

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Abstract

Under the micro-gravity environment, holding technology of molten metal is important to manufacture new materials. In the present study, the technology to handle the material in space by the ultrasonic wave is developed. At first, the characteristics of bubble in water held by the ultrasonic standing wave under normal gravity and reduced gravity environment are investigated. Secondly, the characteristics of the droplets in air held by the ultrasonic standing wave under normal gravity environment are investigated. Finally, it is clarified that the surface tension and viscous coefficient of the droplet are estimated by measuring surface oscillation and the damping constant of the droplet.