

||||| 特集 1：磁場を利用した高温融体の熱物性測定とプロセッシング |||||
(解説)

重畳磁場を利用した電磁浮遊における浮上液滴の挙動

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Metallic Droplet Levitated by Simultaneous Imposition of the Static and the Alternating Magnetic Fields

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Abstract

A levitation method using simultaneous imposition of the static and the alternating magnetic fields has been developed to investigate solidification behavior from the undercooled melt. The surface vibration and the convection in the levitated melt decreased with increasing the static magnetic field. The metallic melt was stably levitated like a hard sphere when intensity of the static magnetic field was more than 1 T. Since the convection was sufficiently reduced by the static magnetic field, the heat transfer in the levitated melt was controlled by the conduction.