

||||| 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)

## 静磁場印加非定常熱線法による液体水銀の熱伝導率測定

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### **Thermal Conductivity Measurement of Liquid Mercury Using Transient Hot Wire Method in Static Magnetic Field**

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#### **Abstract**

The transient hot wire method incorporating with a static magnetic field has been developed to measure thermal conductivities of molten metals. Measurements were conducted on liquid mercury. Prior to the measurements, effect of an alumina-coated hot wire on the measurements was evaluated. Natural convection was effectively suppressed by the Lorentz force acting on the mercury in a static magnetic field. The thermal conductivity of liquid mercury is 7.5 W/mK at 294 K.