

反应堆工程

## 熔融金属锡在水中运动时压力波动特性实验研究

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**摘要** 在核电站严重事故分析中, 熔融金属与水的相互作用是一个重要的研究课题。本实验利用高速摄像机和压力传感器记录了不同熔融金属温度、水温以及熔融金属直径条件下熔融金属锡与水作用过程中的运动图像和压力波动曲线, 分析了这3种因素的作用机理。

**关键词** [熔融金属](#) [压力波动](#) [泰勒不稳定性](#)

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## Experimental Research on Characteristics of Pressure Wave of Molten Stannum Moving in Water

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**Abstract** In the analyses of severe accidents of nuclear power plants, it is very important to study molten-fuel-coolant-interactions. In the paper, the motion images of molten stannum in water and the pressure wave were obtained in different conditions, which are different temperatures of the molten stannum, different temperatures of the water and different diameters of the molten stannum, by using the high-speed camcorder and the pressure sensor. Furthermore, the process of the interactions was considered.

**Key words** [molten metal](#) [pressure wave](#) [Taylor instability](#)

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