

<<Magnetic convection >

图书基本信息

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### 内容概要

The manufacture of silicon single crystals is one of the most important processes in the information technology industry.

This book explains the details of liquid metal convection , providing a guide for the elegant operation and control of Czochralski crystal growth , including the effect of magnetic control.

Also covered is the newly emerging research field of the application of strong magnetic field using a superconducting magnet.

Model equations for the phenomena in the magnetic field are treated in detail , which will be of much use to researchers and engineers in the field.

The coverage includes the effect of the Lorentz force in materials processing and the magnetic force of recently developed superconducting magnets.

It examines heat , mass and momentum transfer in electro-conducting and non-conducting fluids under normal and very strong magnetic fields.

The book also treats the Czochralski single crystal growth process and continuous steel casting process as the most important current applications of magnetic fields.

Numerical approaches are compared with the corresponding experimental measurements.

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