

### 论文摘要

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## 铝电解槽膛内形在线动态仿真实理论研究

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**摘 要:** 通过分析熔体特性与槽膛内形的关系以及参数随时间变化的规律, 将影响槽膛内形的诸多工艺参数分为静态影响因素和动态影响因素两类; 详细分析了动态影响因素的影响作用, 并给出了多个动态影响因素对槽膛内形的数值估算方法。在此基础上, 提出了能初步应用于现场的槽膛内形在线动态仿真技术方案。

**关键字:** 铝电解 槽膛内形 动态仿真

## ON-LINE DYNAMIC SIMULATION OF FREEZE PROFILE IN ALUMINIUM ELECTROLYSIS

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**Abstract:** By means of analyzing the relationship between the molten electrolyte properties and the freeze profile as well as the laws of factors affecting the freeze profile with respect to time, the technological factors affecting the freeze profile were classified into two types, i.e., static factors and dynamic factors, for the first time. Based upon the detailed research on the dynamic factors and their numerical solution approaches, a technical proposal of establishing an on-line dynamic simulation which can be used in commercial practice was made.

**Key words:** aluminium electrolysis freeze profile dynamic simulation

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