

科学基金

单晶硅电火花铣削电极表面覆盖效应研究

刘志东;鲁清;邱明波;田宗军;黄因慧

南京航空航天大学,南京,210016

摘要:

对单晶硅电火花铣削过程中电极表面出现的覆盖层进行了分析,分析结果表明,该覆盖层的主要成分是SiO₂。实验证明, SiO₂是加工过程中电化学反应的产物。研究了电参数对SiO₂覆盖层厚度的影响规律。研究表明,可以通过控制SiO₂覆盖层的厚度来保护电极和补偿电极损耗,实现低损耗甚至无损耗的单晶硅电火花铣削加工。

关键词:

单晶硅;电火花铣削;电极损耗;覆盖效应

Study on Electrode Covering Effect on Monocrystalline Silicon in Electrical Discharge Milling

Liu Zhidong;Lu Qing;Qiu Mingbo;Tian Zongjun;Huang Yinhui

Nanjing University of Aeronautics and Astronautics,Nanjing,210016

Abstract:

Electrode covering effect on monocrystalline silicon in electrical discharge milling was analyzed and the covering material was SiO₂. The SiO₂ cover was proved to be generated from some electrochemical reactions during the process.The effects of electrical parameters on the covering thickness were researched, and electrical discharge milling of low or even no electrode wear can be realized by controlling the covering thickness to compensate for electrode wear.

Keywords: monocrystalline silicon;electrical discharge milling;electrode wear;covering effectzz')"
href="#"> monocrystalline silicon;electrical discharge milling;electrode wear;covering effect

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

作者Email:

参考文献:

本刊中的类似文章

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(558KB)
- ▶ [HTML全文]
- ▶ 参考文献PDF
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 单晶硅;电火花铣削;电极损耗;覆盖效应

本文作者相关文章

- ▶ 刘志东
- ▶ 鲁清
- ▶ 邱明波
- ▶ 田宗军
- ▶ 黄因慧

PubMed

- ▶ Article by Liu, Z. D.
- ▶ Article by Lu,
- ▶ Article by Qing,
- ▶ Article by Qiu, M. B.
- ▶ Article by Tian, Z. J.
- ▶ Article by Huang, Y. H.