

多晶CaB₆陶瓷弱铁磁性能与气孔率关系

曹明贺¹, 孙越魁², 蒋军², 刘韩星¹, 袁俊²

1. 武汉理工大学材料复合新技术国家实验室, 武汉 430070;

2. 清华大学材料科学与工程系, 北京 100084

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摘要 用常压烧结和热压烧结法分别制备了多晶Ca_{1+x}B₆ (x=-0.02、0、0.02)

陶瓷样品并对其铁磁性能进行系统分析. 结果表明, 在烧结温度低于1500℃范围内, 不论样品富Ca或赤Ca, 所有的样品均呈现铁磁性能; 另外, 两种方法制备的陶瓷样品虽然气孔率明显不同,

而其铁磁性能并没有显著差异, 认为CaB₆样品存在的铁磁性机制不决定于样品中的Ca空位浓度和气孔率.

关键词 [多晶CaB₆陶瓷](#) [铁磁性能](#) [气孔率](#) [热压烧结](#)

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Relationship of Ferromagnetic Property with Porosity of Polycrystalline CaB₆ Ceramics

CAO Ming-He¹, SUN Yue-Kui², JIANG Jun², LIU Han-Xing¹, YUAN Jun²

1. State Key Lab of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China;

2. Department of Materials Science and Engineering of Tsinghua University, Beijing 100084, China

Abstract Polycrystalline Ca_{1+x}B₆ (x=-0.02, 0, 0.02) ceramics were prepared by hot press and normal methods respectively and their ferromagnetic properties were analyzed systematically. The results indicate that all the samples prepared are ferromagnetic when sintering temperature is less than 1500℃. Though the porosity ratio of these samples prepared by these two methods is significant difference, the ferromagnetic properties are not changed with the changing porosity. We believe the ferromagnetism in the CaB₆ ceramics is not concerned with the Ca vacancies or the porosity in the samples.

Key words [CaB₆ ceramics](#) [ferromagnetic](#) [porosity](#) [hot press sinter](#)

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通讯作者 曹明贺 caominghe@tsinghua.org.cn

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