

论文

用扫描电镜直接观察变形材料中的位错结构—[001]取向铜单晶疲劳位错结构的研究

宫波;陈道伦;苏会和;王中光

中国科学院金属研究所材料疲劳与断裂国家重点实验室;沈阳,110015;中国科学院金属研究所材料疲劳与断裂国家重点实验室;沈阳,110015;中国科学院金属研究所材料疲劳与断裂国家重点实验室;沈阳,110015;中国科学院金属研究所材料疲劳与断裂国家重点实验室;沈阳,110015

摘要: 用扫描电镜(SEM)的电子通道衬度(ECC)技术研究了[001]取向铜单晶中的疲劳位错结构结果表明,SEMECC技术不仅可以真实地、全面地显示疲劳位错组态,而且还揭示了表面出现的宏观形变带与位错结构的对应关系。

关键词: 扫描电镜 电子通道衬度技术 铜单晶体 位错结构

DIRECT OBSERVATION OF DISLOCATION STRUCTURE IN DEFORMED MATERIALS BY SEM—Dislocation Structure in a Fatigued [001] Cu Single Crystal

Gong Bo;Chen Daolun; Su Huihe; Wang Zhongguang(State Key Laboratory for Fatigue and Fracture of Materials, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110015)

Abstract: The dislocation configuration in a fatigued [001] copper single crystal has been studied by using a scanning electron microscope (SEM) with the electron channeling contrast(ECC) technique. It has been shown that this unique technique is efficient to reveal not only the fatigue dislocation structures in a large scale but also the relationship between the surface deformation bands and inside dislocation structures. It has been proven to be a powerful tool to connect macrostructures and microstructures in fatigued materials.

Keywords: scanning electron microscope electron channeling contrast copper single crystal dislocation structure

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通讯作者:

作者简介:

作者Email:

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