

氩离子辐照对ZrO₂-Y₂O₃薄膜的结构影响

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摘要 为了研究离子辐照对薄膜结构的影响,对氩离子辐照磁控溅射沉积的ZrO₂-8%(m/m)Y₂O₃薄膜,用XRD、AES及XPS进行微观分析。结果表明,溅射沉积的无定形薄膜经离子辐照后发生了晶化,膜内元素与基体元素发生了显著的混合,表面污染的碳向膜内迁移。此外,还研究磁控溅射沉积ZrO₂-8%(m/m)Y₂O₃薄膜氩离子辐照前后表面Zr(3d),Y(3d),O(1s)结合能的位移情况。

关键词 [离子辐照](#) [磁控溅射ZrO₂-8%\(m/m\)Y₂O₃薄膜](#) [微观分析](#)

分类号

EFFECTS OF THE ARGON ION IRRADIATION ON THE MICROSTRUCTURE OF ZrO₂-Y₂O₃ FILMS

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Abstract The microstructure of the films deposited ZrO₂-Y₂O₃ by Ar⁺ ion irradiation are investigated with XRD、AES and XPS. The results show that amorphous films deposited with r. f. magnetron sputtering at room temperature are transformed partly to crystalline after argon ion irradiation. The irradiated films are obviously mixed with substrate and contaminating carbon enters the films deeply. Besides, Zr(3d), Y(3d) and O(1s) on the surface of the deposited films are studied before and after argon ion irradiation.

Key words [Ion irradiation](#)[Magnetron sputtering deposited ZrO₂-8%\(m/m\)Y₂O₃ films](#)[Microanalyses.](#)

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