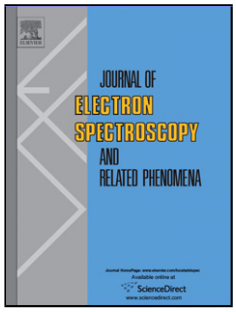

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Soft x-ray reflectivity study of ZrC/Al interfaces by making a Al/ZrC/Al/W waveguide structure

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Abstract

ZrC/Al multilayer is found suitable for soft x-ray/EUV region near the Al L absorption edge. Intermixing of Al at the interfaces is a serious problem in order to achieve the calculated reflectivity performances from an experimentally grown multilayer. In this study our aim is to investigate the ZrC/Al interfaces by making a waveguide structure as Al/ZrC/Al/W. We used soft x-ray reflectivity (SXR) technique to study the x-ray waveguide structure composed of 4 layers on Si substrate. Structural parameters of the stacks, density, thickness and roughness of the layers, are determined through fitting of SXR data.

Introduction