

## Accepted Manuscript

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PII: S0368-2048(17)30045-2  
DOI: <http://dx.doi.org/doi:10.1016/j.elspec.2017.03.002>  
Reference: ELSPEC 46642

To appear in: *Journal of Electron Spectroscopy and Related Phenomena*

Received date: 30-7-2016  
Revised date: 20-2-2017  
Accepted date: 6-3-2017

Please cite this article as: A. Singh, M.H. Modi, P. Jonnard, K. Le Guen, J.-M. André, Soft x-ray reflectivity study of ZrC/Al interfaces by making a Al/ZrC/Al/W waveguide structure, *Journal of Electron Spectroscopy and Related Phenomena* (2017), <http://dx.doi.org/10.1016/j.elspec.2017.03.002>

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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

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