Contribution ID: **48** Type: **poster**

XPS using Ag Lα radiation and dual peak analysis of the same element for layer thickness determination

X-ray Photoelectron Spectroscopy is frequently used method for elemental and chemical analysis of surfaces and ultra thin films. By using proper model, the method is also able to obtain information about morphology, for example thickness of ultra thin films. Information depth is dependent on energy of incident X-ray radiation, therefore it is twice higher in case of using Ag Lα (2984.3 eV) than standard Al Kα (1486.6 eV). In presented work, we studied possibilities of using Ag Lα X-ray radiation for determination of Al2O3 layer thickness. The layers were deposited on silicon substrate by Atomic Layer Deposition and analysed by Kratos Axis Supra spectrometer in CzechNanoLab research infrastructure.

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Session Classification: Posters

Track Classification: Surfaces and nanostructures for electronics