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Presentation Title:

EnviroMETROS – The future of surface hybrid metrology

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Abstract:

The novel EnviroMETROS series revolutionizes the field of surface hybrid metrology. It is a unique metrology platform for the chemical analysis of ultrathin films and 2D materials that allows for a detailed characterization of stoichiometries, composition and depth distribution of elements. In combination with optical and other analytical techniques it enables depth dependent composition analysis of unsurpassed precision, reliability and repeatability.

The new EnviroMETROS series consists of fully automated XPS/HAXPES metrology systems consequently designed for depth dependent chemical analysis of samples, utilizing different X-ray energies and parallel angle detection at the same time and in variable atmospheres from UHV to NAP-conditions. The (NAP)-XPS/ HAXPES analysis is accompanied by several methods on the same spot, like UPS/IPES/REELS for electronic structure studies, small spot XPS and SEM/SAM for chemical mapping, LEISS for ultimate surface sensitivity, Raman as well as IRRAS as optical methods for structural information. It can be used for large samples (EnviroMETROS LAB) as well as wafer handling (EnviroMETROS FAB).

The presentation will highlight the details of the EnviroMETROS series, as an ideal tool for routine analysis of ultrathin films and 2D materials for modern devices and give an insight into the large field of applications.