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Depth profiling in the nm-thickness range: A critical evaluation of angle-resolved XPS

In the talk the limits of sputter depth-profiling for thin films due to ion beam damage are shortly mentioned. Angle-resolved X-ray photoelectron spectroscopy (ARXPS) as a non-destructive depth profiling technique is introduced and some application examples are given. A major concern is the discussion of the limits of the technique. It is demonstrated how measurement simulation can help to reveal and quantify some of the occurring artifacts. At the end an idea for using glancing angles for ARXPS is introduced and future challenges of the technique are discussed.