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# Welcome: From qualitative towards quantitative chemical imaging

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With the increasing recognition that macroscopic material properties and chemical reactivity are frequently triggered by nano- and microscopic structures and processes, the demand for „chemical microscopes"grew rapidly. Recently, X-ray microprobe techniques advanced into leading methods concerning microscopic chemical imaging. Most advantageous are the achievable spatial resolution, the chemical selectivity as well as the fast data acquisition speed. However, in contrast to the conventional (large beam) XRF analysis, full quantification of micro beam XRF measurements is still hampered, mainly due to (microscopic) matrix phenomena. In this introductory overview, the inherent challenges of quantitative chemical imaging by micro-XRF will be delineated. Additionally, in view of the recent progress in the field, a short outlook will demonstrate on how various x-ray analytical techniques will benefit from advanced XRF spectra analysis strategies.

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Talk

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Advancing quantitative chemical imaging

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