

Depth profiling and 3D tomography for 3D RBS such as Corteo, Maria, and for calculation of depth resolution

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Content

The main concepts in RBS are the kinematic factor, the scattering cross sections, and the energy loss, which allow us to answer three fundamental questions about a sample: what elements are present in the sample?; how much of each element is present?; and where are the elements located? When combined with spatially resolved measurements (e.g. using a microbeam), in principle it should be possible to derive 3D information about inhomogeneous samples - this is RBS tomography, a concept proposed many years ago, but not fully realized. However, new methods of data evaluation now exist, that are opening up possibilities to the analyst. This lecture will first focus on the possibilities and methods behind RBS tomography, and then will go on to show how to calculate depth resolution as function of depth, which is one of the essential limitations and factors to be considered in analysis.

Summary

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