Optimizing Nuclear Reaction Analysis-Based Depth Profiling
Using Experimental Design Methods

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Nuclear Reaction Analysis holds the promise to measure depth profiles up to large depths, e.g., using $^3$He for deuterium depth profiling. However, the extraction of the depth profiles from the measured data is often an ill-posed inversion problem. Here, we demonstrate how Bayesian Experimental Design can be used to optimize the number of measurements as well as the measurement energies to maximize the information gain.

Examples for different idealized as well as for real-world samples will be presented.