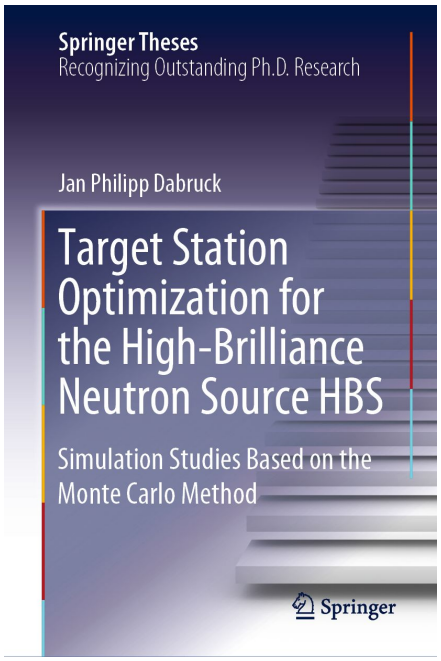

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Jan Philipp Dabruck

Target Station Optimization for the High-Brilliance Neutron Source HBS

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In the present work, the target station of the accelerator-driven neutron source HBS is optimized in comprehensive parameter studies using the Monto-Carlo method. The dependence of the most important performance characteristics of such a system on the external parameters is investigated neglecting technical and mechanical limitations. In this way, qualitative and quantitative statements for all possible configurations and envisaged applications can be derived and should be considered in the detailed planning of such facilities. For this purpose, different scenarios are considered that place completely different requirements on the design of the target station. The central statements derived in this thesis can be transferred to any framework conditions, such as different accelerator energies, so that these results can be used in the development of other neutron sources, which together with the HBS form a European network and provide a prosperous community in neutron science.