



Contribution ID: 19

Type: **not specified**

McStas Simulation Tools for Neutron Focusing Optics and Virtual Experiments

Thursday, 2 March 2023 14:00 (30 minutes)

The McStas[1-3] neutron ray-tracing simulation package is a versatile tool for producing accurate simulations of neutron optical systems and neutron scattering instruments at reactors, short- and long-pulsed spallation sources. McStas is extensively used for design and optimization of instruments, virtual experiments, data analysis and user training. McStas was founded as an scientific, open-source collaborative code in 1997.

This contribution presents the project at its current state and further gives an overview into the specific options for simulation of neutron-optical devices for beam focusing.

References:

- 1 K. Lefmann and K. Nielsen, Neutron News 10, 20, (1999).
- 2 P. Willendrup, and K. Lefmann, Journal of Neutron Research, vol. 22, no. 1, pp. 1-16, 2020
- 3 P. Willendrup, and K. Lefmann, Journal of Neutron Research, vol. 23, no. 1, pp. 7-27, 2021

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