



E I N L A D U N G
zum
V E R A - S E M I N A R
von

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Diffractive optics for slow neutrons

In recent years considerable effort has been devoted to design and develop neutron diffractive optical elements (nDOE) for slow – i. e. cold and very cold – neutrons [1-3]. Progress was obtained by testing new materials [4], optimizing and functionalizing them [5], as well as by improving the neutron-optical techniques.

We will give an overview on different nDOEs such as 2-port beamsplitters, n-port beamsplitters, mirrors, polarizing elements and interferometers. A particular emphasis will be laid on the materials and their properties as well as the techniques that are required to successfully prepare nDOEs. Finally, future prospects for applications as well as to fundamental experiments will be presented.

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[3] J. Klepp, C. Pruner, Y. Tomita, J. Kohlbrecher, M. Fally, Appl. Phys. Lett. 101, 2012, 154104.

[4] Y. Tomita, *et al.*, J. Mod. Optic 63, 2016, S11.

[5] J. Guo, R. Fujii, T. Ono, J. Klepp, C. Pruner, M. Fally, Y. Tomita, Opt. Lett. 39, 2014, 6743.

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