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Development of the Instrument Suite of the HBS

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Abstract

The Jülich High Brilliance neutron Source (HBS) is a High-Current Accelerator-driven Neutron Source (Hi-CANS). It is supposed to be Germany's future national neutron source replacing the high flux reactor FRM-2 in Garching close to Munich. Accordingly, a complete instrument suite is foreseen enabling all fields of neutron research as already proposed in the Conceptual Design Report [1]. For the Technical Design Report, 19 instruments, installed on a 24 Hz or a 96 Hz target station, are designed, simulated and their performance compared with those of the corresponding instruments at FRM-2. Additional instruments using epithermal neutrons may be installed on the 3rd target station, whose main function and parameters are not yet defined. This instrument suite and the current status of the design study are presented here.

References

[1] Conceptual Design Report: Jülich High Brilliance Neutron Source (HBS), T. Brückel, T. Gutberlet (Eds.), Schriften des Forschungszentrum Jülich vol. 8, Jülich, Gerrmany, 2020, section VI. ISBN 978-3-95806-501-7.