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UNIVERSITÄT
BERN

AEC
ALBERT EINSTEIN CENTER
FOR FUNDAMENTAL PHYSICS

The *Albert Einstein Center for Fundamental Physics* (AEC) and the *Laboratory for High Energy Physics* (LHEP) at the University of Bern invite applications for

**Two Ph.D. Student Positions in Experimental Particle Physics with Neutrons
concerning the n2EDM and the Q-Neutron Experiments**

Our research group, the *Fundamental Neutron Physics Group*, is working in the field of experimental low energy particle physics. We develop novel methods and pursue high-precision neutron physics experiments to sensitively test the standard model of particle physics. The group is active in several exciting state-of-the-art projects. In particular, we play leading roles in the search for a neutron electric dipole moment, firstly, using ultracold neutrons within the nEDM collaboration based at the Paul Scherrer Institute (n2EDM-experiment: <https://arxiv.org/abs/2101.08730>) and secondly using a cold pulse neutron beam (Beam EDM: <https://arxiv.org/abs/1309.1959>). We also investigate a new interferometric method with the goal to measure the electric charge of the neutron (Q-Neutron: <https://arxiv.org/abs/1812.03986>). Ultimately, some of the experiments are intended for the upcoming European Spallation Source in Sweden. The group also operates dedicated laboratories concerning low-field magnetometry and high-voltage developments.

The successful candidates will be involved in all aspects of the experiment, e.g. design and test of experimental components, data acquisition, simulations, conducting neutron experiments during beam times, and data analysis. They will be able to learn and experience a broad range of (particle) physics techniques and skills. The positions will be located in Bern, however, experiments will also be performed at neutron sources at the Paul Scherrer Institute and other international research facilities.

We are looking for highly skilled and enthusiastic researchers who enjoy working in these quickly emerging projects. You should hold a master's in physics and ideally have hands-on experience in experimental physics from internships and/or your master's project. You are a team-oriented and communicative person who acts independently and shows initiative. Good knowledge of English (written and oral) is mandatory.

Candidates are requested to send a short letter of motivation, their CV, names and contact information of possible references, and copies of key documents (transcripts, degree certificates) to the email address given below.

The positions are open starting from November 1st 2023. The review of applications will continue until the positions are filled.

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