

Experimental PhD Position: Search for light dark matter at Beam Dump Facility

Tuesday 13 July 2021 12:00 (10 minutes)

The Astroparticle Physics Group at the Physics Institute of the University of Freiburg invites applications for a

Experimental PhD Position:

Search for light Dark Matter at a Beam Dump Experiment at CERN

The successful candidate will conduct experimental work in context of the Beam Dump Facility (BDF) to be realized at CERN, where projects such as the proposed SHiP Experiment (Search for Hidden Particles) could be installed. Such experiments will produce very weakly interacting long-lived particles from a new “Hidden Sector” of particle physics by sending a high-intensity proton beam into a beam dump, and to subsequently detect the decays of these particles. A central component of the BDF will be its decay vessel enclosed by the liquid scintillator-based Surround Background Tagger (SBT) to reject background events. The PhD candidate will realize a first full-scale prototype of a SBT segment which will be characterized at a testbeam at CERN and develop the readout electronics for its silicon photomultiplier (SiPM) signals.

The astroparticle physics group at the University of Freiburg is also involved in the direct detection of dark matter (XENON, DARWIN), as well as in CAST and COMPASS / AMBER at CERN.

Applicants should have a Master’s degree (or equivalent) in physics and knowledge in (astro-)particle/nuclear physics. Interests and skills in hardware development, laboratory work and electronics are important. Basic programming skills are required.

Interested candidates are encouraged to send a motivation letter stating their research interests, a CV with a list of publications (if available), an abstract of the masters/diploma thesis (max ½ page), degree certificates and study transcripts with a description of the grading scheme, a tangible proof of the fluency in English (if available) as well as names and email addresses of two potential references to marc.schumann@physik.uni-freiburg.de. Please send applications in electronic form (one single pdf file).

The position is open July 1st, 2021 until filled. Applications are reviewed in the order they are received. Salary is 66% of a German TV-L-13 position. We welcome applications from women and members of under-represented groups in our field. Applicants with disabilities will be given preferential consideration in case of equal qualification.

Type of post

PhD studentship

Primary author: SCHUMANN, Marc (University of Freiburg)

Session Classification: Offering a position

Track Classification: Scientific Field: DM | Dark Matter