



The Max Planck Institute for Physics invites applications for a

Postdoctoral position

focused on R&D in connection with the future large scale neutrinoless double-beta decay ($0\nu\beta\beta$) experiment and analysis on GERDA phase II data. This opening is part of the Collaborative Research Center CRC 1258 „Neutrinos and dark matter in astro and particle physics“.

Germanium based $0\nu\beta\beta$ decay experiments are designed to investigate the nature of the neutrino and to test Lepton number conservation by searching for $0\nu\beta\beta$ decay of ^{76}Ge . The goal is to either establish Lepton number violation and the Majorana nature of the neutrino or to push the relevant exclusion limits to the neutrino mass scale indicated by neutrino oscillations.

For a ton scale germanium based $0\nu\beta\beta$ decay experiment it is indispensable to further reduce the background from radiation with respect to the GERDA experiment, the currently world leading experiment in this field. The scintillating polymer, PEN, could be used as self-vetoed structural material already in the first phase of LEGEND experiment. Use of this material could lead to a significant improvement of background recognition efficiency and hence sensitivity for $0\nu\beta\beta$ decay.

The successful candidate is expected to take over a leading role in the development of the new material and should push forward the integration of germanium detectors into surroundings made from self-vetoed polymers. The candidate is expected to actively participate in joint activities of the CRC.

Formal requirements for this position are a PhD in experimental physics. The candidate should have a background in (astro-)particle physics or detector physics. Experience in polymer research, low background physics and with HPGe diodes, and a good knowledge in programming with C++, Root and GEANT 4 are an advantage.

Salary and benefits are commensurate with public service organizations (TVöD Bund). The contract is initially limited to 2 years. The Max Planck Society is an equal opportunity employer. The goal is to enhance the percentage of women where they are underrepresented. Women, therefore, are especially encouraged to apply. The Society is committed to employing more people with special needs. Applications of people with special needs are particularly welcome.

Further information can be obtained from Dr. Béla Majorovits (bela@mppmu.mpg.de). Interested applicants should send an application letter including curriculum vitae, a statement of research interests, a list of main publications and arrange for three letters of support. Please send your complete written application by to ina@mpp.mpg.de.

The Max Planck Institute for Physics collects and stores personal data that you send for your application. Further information on the data collected can be found at <https://www.mpp.mpg.de/en/studying-and-working/jobs/data-protection-statement-for-job-applications/>

