

Research associate / PhD candidate (m/f/d)

Job description:

The Laboratory for Applications of Synchrotron Radiation (LAS) located at Campus South of KIT and closely connected to the Institute for Beam Physics and Technology (IBPT) located at Campus North of KIT, is collaborating with the CERN Machine Protection group on failure scenarios for the superconducting magnets for the Large Hadron Collider (LHC) high luminosity upgrade and future accelerators for high energy physics.

In this context we offer a PhD position dedicated to the first experimental studies on damage thresholds and mechanisms of superconducting magnets upon the impact of high-energy beam losses.

We offer at any time exciting PhD theses in the field of accelerator and laser physics, using and advancing state-of-the-art technologies and collaborating in an international environment.

We envision the following concrete tasks:

- develop experimental strategies and diagnostics for quench and damage analysis for superconducting coils and magnets irradiated by a high-intensity high-energy proton beam
- design and build test coils and magnets, set up an experimental environment for irradiation experiments
- perform experiments at CERN's irradiation facility HiRadMat
- be willing to push first ideas forward via numerical simulations to experiments
- develop models for damage mechanisms and thresholds as part of the overall machine protection model of LHC.

Qualification:

The following qualifications are required seeking your consideration for this position:

- a MSc./Diploma degree in physics
- general knowledge in accelerator physics and superconductor technology

We offer:

We offer an attractive and modern workplace with access to excellent facilities of KIT, diverse and responsible tasks, a wide scope of advanced training options, supplementary pension with the VBL (Pension Authority for Employees in the Public Service Sector), flexible working time models, a job ticket (BW) allowance, and a cafeteria/canteen.

Salary:

The remuneration occurs on the basis of the wage agreement of the civil service in TV-L, E13, provided that personal preconditions are given

Institute:

Laboratory for Applications of Synchrotron Radiation (LAS)

Contract duration: limited to three years

Starting date: as soon as possible

Application up to: 14.04.2019

Contact person in line-management: For more information please contact Dr. Axel Bernhard, E-Mail: axel.bernhard@kit.edu.

Application: Please send the full application with a motivation letter, curriculum vitae, copies of academic degrees and transcripts of records as a single PDF file to Dr. Axel Bernhard, E-mail: axel.bernhard@kit.edu

We prefer to balance the number of employees (m/f/d). Therefore we kindly ask female applicants to apply for this job.

If qualified, severely disabled persons will be preferred.

KIT is certified as a family-friendly university (familienfreundliche Hochschule) and offers part-time employment, leaves for family-related reasons, dual career options, and individual coaching for family-work balance.

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Personalservice