



Karlsruhe Institute of Technology

Karlsruhe Institute of Technology
Personalservice (PSE)

Kaiserstraße 12
76131 Karlsruhe

<http://www.pse.kit.edu>

Research associate / PhD candidate (m/f/d) Benchmarking of advanced particle beam optics simulation tools

Job description:

The Laboratory for Applications of Synchrotron Radiation (LAS) located at Campus South of KIT is closely connected to the Institute for Beam Physics and Technology (IBPT) located at Campus North of KIT, which is operating the research accelerator KARA and building up the linear research accelerator FLUTE. The LAS is involved in the magnet and beam dynamics simulations and the magnet qualification for FLUTE.

In this context we offer a PhD position dedicated to the development and experimental verification of advanced beam dynamics simulation tools based on simulated and measured magnetic fields of beam guiding and focusing magnets. This project will be carried out in close collaboration with the Institute for the Theory of Magnetic Fields (TEMF), TU Darmstadt.

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:

- fully characterize the magnetic field of FLUTE and KARA magnets
- model particle transport through these magnets using software tools developed by TEMF
- verify the beam transport simulations by experiments at FLUTE and KARA

Qualification:

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

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

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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