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## Helmholtz – CSC – Fellowships 2010

**Helmholtz Centre:** Forschungszentrum Karlsruhe = KIT – Campus North  
**Research Field:** Structure of Matter  
**Research Project:** Astroparticle Physics  
**Position:** PhD Student  oder Sandwich PhD Student  Postdoc   
**Department/Supervising scientist:** KIT Campus North - Institut für Kernphysik - A. Haungs

**Research Area:**

**Anisotropy studies of high-energy cosmic rays**

The KASCADE experiment (<http://www-ik.fzk.de/KASCADE-Grande.html/>) explores cosmic rays in the energy range of 100 TeV to 100 PeV, i.e. in the region of the so called “knee” of the cosmic ray spectrum. With the multi-detector set-up installed in Karlsruhe detailed investigations of the arrival directions of the cosmic particles are possible, where results would give valuable information on the origin, acceleration and propagation of cosmic rays. Different methods are available to estimate large scale anisotropy, but all of them require large data statistics to provide. A comparable experimental device to KASCADE exists in China with the Tibet air shower array. The candidate is supposed to work on a combined analysis of the data from both sites to enhance the sensitivity of the measurements.

**Specific Requirements:**

Candidates should hold a qualifying degree in physics and have a specialization in particle astrophysics and/or elementary particle physics. Software skills (C++, analysis software, Linux) would be assets. A basic command of English should be available.

**Work Place:** KIT Campus North, Karlsruhe, Germany

**Earliest Start** (between September 2010 and February 2011): **September 2010**

**Language Course:** offered by KIT

**Further Information:** <http://www.fzk.de/ik>

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