

---

Prof. Dr. Alexandre Obertelli  
Institut für Kernphysik, TU Darmstadt  
Schlossgartenstr. 9, 64289 Darmstadt  
Germany



## Postdoctoral researcher position in Nuclear Physics **Shell evolution in neutron-rich nuclei with STRASSE at the RIBF**

A two-year postdoctoral position is open at the Institute of Nuclear Physics (IKP) of TU Darmstadt. The position is renewable on the basis of mutual agreement. It is offered within the Collaborative Research Centre (CRC) SFB 1245 « Nuclei: From Fundamental Interactions to Structure and Stars» (<https://www.sfb1245.tu-darmstadt.de>) funded by the German Research Foundation (DFG). The successful candidate will be member of the CRC. The position is to be filled in March 2020 at the latest.

A new device, named STRASSE (Silicon Tracker for **RA**dioactive-nuclei **S**tudied at **SAMURAI** **E**xperiments), will be developed to perform missing-mass and gamma spectroscopy for (p,2p) quasi-free scattering in inverse kinematics at the RIBF to study nuclei with extreme neutron-to-proton asymmetry. STRASSE will be composed of a high-granularity silicon tracker that combined to a thick liquid hydrogen target. It will be used together with charged particle calorimeters and gamma-ray tracking detectors. This novel setup offers unique chance to access specific unbound excited states and opens a new resolution era of gamma spectroscopy with fast rare isotope beams. The candidate will take a leading role in the conception of the STRASSE array, and will be in charge of development of the readout system and its implementation. She/He will develop an independent online system for STRASSE, organize and analyze the final validation test of STRASSE at the RIBF. She/He will also participate the physics experiments with STRASSE and will take in charge of the analysis of one of the first experiments.

### **Her/His tasks will focus on**

- 1) The development, integration and validation of the STRASSE array
- 2) Data analysis and interpretation of one of the first physics experiments with STRASSE

### **Candidate profile:**

Only candidates holding a PhD degree in physics will be considered. The candidate should speak English fluently and has experience in development or operating a readout system.

### **Salary:**

The salary will be according to the tariff contract of the TU Darmstadt (TV-TUD). TU Darmstadt is an equal opportunity employer and we especially encourage applications from outstanding women. Disabled people with a degree of disability of at least 50% will be preferred if equally qualified.

### **Contacts:**

Dr. H. Liu ([hliu@ikp.tu-darmstadt.de](mailto:hliu@ikp.tu-darmstadt.de)), Prof. A. Obertelli ([aobertelli@ikp.tudarmstadt.de](mailto:aobertelli@ikp.tudarmstadt.de))