TECHNISCHE UNIVERSITÄT DARMSTADT

The Institute of Nuclear Physics of the TU Darmstadt announces a position for a

Doctoral Candidate/Phd Student - Experimental Heavy-Ion Physics – 66,67%

in the group of Professor Dr. Tetyana Galatyuk in the framework of the Hessian Cluster Project ELEMENTS to be filled as soon as possible. The position amounts to 2/3 full-time and is limited to a contract term of three years (max. up to the end of the funding period on March 31, 2025).

The successful applicant will work on the sub-project WP1 “Heavy-Ion Collisions as probes of nuclear matter” on detection of thermal electromagnetic signals emitted throughout the evolution of the HIC.

The Cluster Project ELEMENTS is a collaborative project of Goethe University Frankfurt (leading partner), TU Darmstadt, JLU Gießen, and the GSI Helmholtz Centre for Heavy-Ion Research. It addresses the physics of binary neutron-star mergers from gravitational waves to the nucleosynthesis of heavy chemical elements and electromagnetic signals. This includes determination of the equation of state of matter at extreme densities, temperatures and isospin. Heavy-ion collisions at moderate collision energies provide access to such forms of matter in laboratory experiments. The challenge is to: (a) identify observables sensitive to the EOS and transport coefficients and (b) to connect properties of matter studied in the laboratory with the characteristics of the matter in NSs.

The institute for nuclear physics hosts 15 research groups with around 280 members working in the field of experimental and theoretical nuclear-structure physics, nuclear astrophysics, QCD matter physics and laser and plasma physics. It is one of the largest of its kind world-wide at highest international reputation.

The successful applicant will work on analysis of experimental data collected in 2019 by the High Acceptance DiElectron Spectrometer (HADES) at the heavy-ion synchrotron SIS18, GSI Darmstadt. The aim is to extract thermal dilepton radiation in the low- and intermediate mass range. Particular focus is put on the analysis of the dilepton azimuthal anisotropy and polarization.

The applicant is required to have obtained a scientific university degree equivalent to a Master of Science (MSc) in physics at latest at the moment of the starting of the position. It is desirable, that the applicant has already experience with analysis of experimental data in high-energy heavy-ion or nucleon-nucleon collisions. Good knowledge of program languages (C++ and Python) as well as experience with high performance computing are an advantage. Also good communication skills, ability to work in a team and to share knowledge with colleagues will be considered.

Opportunity for further qualification (doctoral dissertation) is given. The fulfillment of the duties likewise enables the scientific qualifications of the candidate.

The Technische Universität Darmstadt intends to increase the number of female employees and encourages female candidates to apply. In case of equal qualifications applicants with a degree of disability of at least 50 or equal will be given preference. Wages and salaries are according to the collective agreements on salary scales, which apply to the Technische Universität Darmstadt (TV-TU Darmstadt).

By submitting your application, you agree that your data may be stored and processed for the purpose of filling the vacancy. You can find our privacy policy on our webpage.

To apply, please send a CV, a letter of motivation, a list of publications and certificates to the Managing Director of the Institute for Nuclear Physics, Professor Dr. Dr. h.c. mult. Norbert Pietralla (gd@ikp.tu-darmstadt.de), while referencing the identification number.

In case of further questions regarding the position please contact Professor Dr. Tetyana Galatyuk (tgalatyuk@ikp.tu-darmstadt.de).

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