

Junior staff position in theoretical hadron physics

The Nucleon Structure Laboratory (LSN) of CEA Paris-Saclay is opening a junior staff scientist position for an outstanding physicist in the field of theoretical hadron physics with a focus on the theory and phenomenology of the three dimensional structure of the nucleon.

The LSN is part of the Nuclear Physics Division (DPhN) of the Institute of Research into the Fundamental Laws of the Universe (Irfu) located at CEA Paris-Saclay (France). It is composed of ten permanent staff physicists working in the field of hadron physics on both theoretical and experimental aspects. Irfu is a highly dynamic scientific environment including research divisions on astrophysics, nuclear and particle physics as well as strong technical and engineering divisions in instrumentation, cryogenics and accelerator technologies. Inside Irfu, DPhN focuses its research on the nucleon and the nucleus, with studies ranging from nuclear structure and reactions to hadron structure and quark gluon plasma.

The LSN has a strong commitment in the experimental and theoretical investigation of the three dimensional structure of the nucleon. This is achieved through the study of generalized parton distributions (GPDs) and observables in hard exclusive scattering processes, like deeply virtual Compton scattering (DVCS), deeply virtual meson production (DVMP) or timelike Compton scattering (TCS). In particular, LSN physicists have been contributing to the modeling of GPDs, the development of the PARTONS software framework, the analysis of existing DVCS measurements, the experimental programs using CLAS12 in Jefferson Lab and COMPASS-II at CERN, and the development of the physics case of the electron-ion collider (EIC) project.

The candidate will invest a significant amount of her/his time in leading the LSN efforts towards the theoretical analysis of current and forthcoming GPD-related experimental data using and further developing the PARTONS framework. She/He will study the quantitative impact of various ingredients of perturbative or non-perturbative QCD, outline the limits of what can be obtained from existing experimental data, and propose innovative ways to improve the general understanding of the three dimensional structure of the nucleon. In addition, she/he is encouraged to support the LSN experimentalists in the development of an original and ambitious science program at the EIC.

A Ph.D. in theoretical nuclear or particle physics is required, with preferably some postdoctoral experience. In-depth experience in QCD is required. A background in scientific computing would be beneficial. Some experience in QCD phenomenology, ideally as part of a team, would be a strong asset.

Candidates should send a cover letter describing their research activities and prospects, a Curriculum Vitae including a list of recent or important publications, at least two letters of recommendation, and when applicable a copy of their PhD thesis as well as the jury reports on their manuscript and/or PhD defense. Documents should be sent preferably by email to danielle.coret@cea.fr (cc: herve.moutarde@cea.fr), or alternatively by postal mail to:

Danielle CORET
CEA Saclay
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For full consideration, all application materials must be submitted by March 15 2019. The hiring committee will release the list of candidates selected for interviews at the beginning of April 2019. The interviews of selected candidates are foreseen in May 2019.

For inquiries, please contact Hervé Moutarde (herve.moutarde@cea.fr).