



INSTITUTE OF PHYSICS
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Fully-funded Postdoc in theoretical condensed matter physics

Group leader: Dino Novko

Institution: Institute of Physics, Zagreb, Croatia

Postdoc position in the field of condensed matter physics and material science is available at the Institute of Physics, Zagreb (Croatia) for a fixed period until 14.01.2025. and related to the implementation of the CSF project "Study of phonon-assisted processes in quasi-two-dimensional materials" (UIP-2019-04-6869).

The goal of the research is to theoretically examine dynamical aspects of electron-phonon coupling in various two-dimensional and bulk materials (such as graphene, transition metal dichalcogenides, and various perovskites) by means of novel first-principles methods. More specifically, the plan is to perform the research of ordered phases such as the superconducting state and charge density waves and their interplay, the influence of non-equilibrium and non-adiabatic processes on the electron-phonon interaction and the aforementioned ordered phases, and plasmon-phonon coupling in non-adiabatic systems. The required methods that will be used include density functional theory and many-body perturbation theory.

Applicants should have a PhD (or equivalent) degree in physics, chemistry, or materials science and a strong background in condensed matter physics. Good knowledge of electronic structure calculations and the corresponding codes is preferred, as well as experience in high performance computing.

In order to apply the candidate should prepare (1) a letter of motivation with brief description of scientific interests and plans, (2) CV with a list of publications, and (3) contact information of at least two scientists from whom a recommendation can be requested.

For more information please contact **Dino Novko** (dino.novko@gmail.com or dnovko@ifs.hr).