

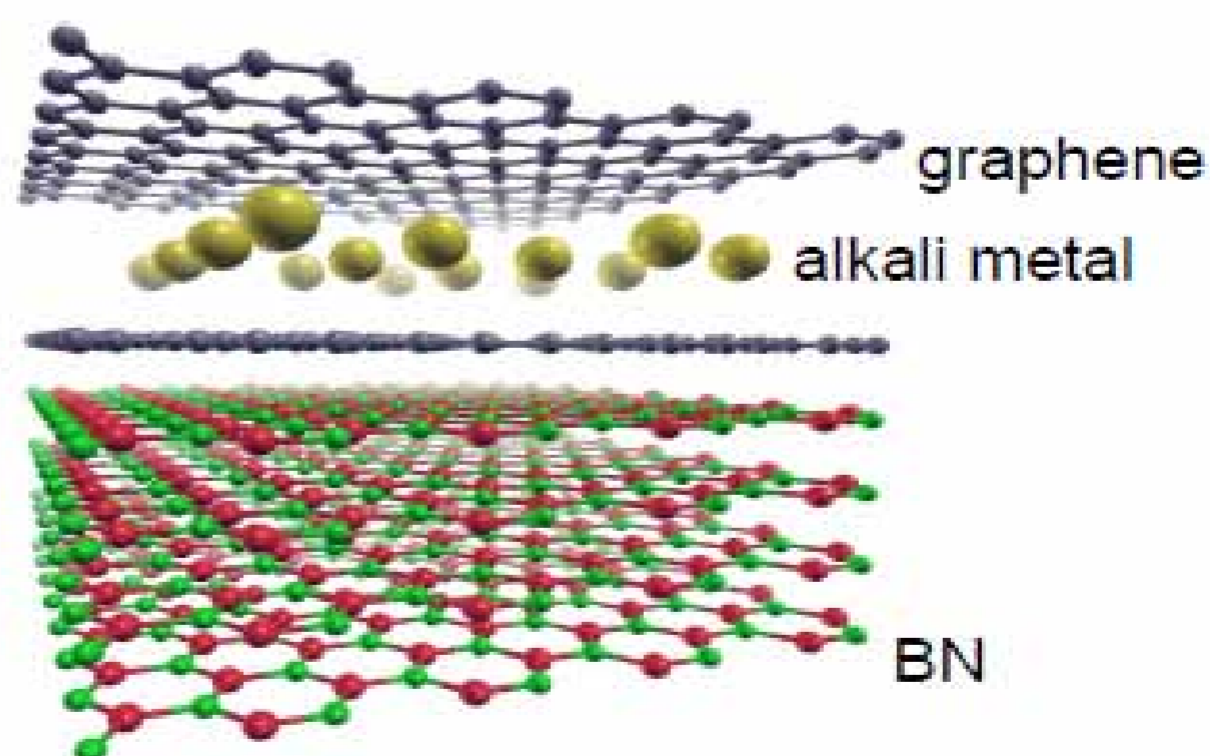
Großes Physikalisches Kolloquium an der Universität zu Köln

Prof. Dr. Alexander Grüneis
Universität zu Köln



Quasiparticle dynamics and optical properties of 2D materials

The goal of my group's research is to prepare and chemically functionalize layered materials and then to characterize them in-situ using a novel combination of photoelectron and optical spectroscopies. This approach provides a solution to the intense research efforts in trying to engineer, probe and unravel many-body physics and the superconducting coupling mechanism in layered solids. Regarding the materials under investigation, I will show results from the growing family of 2D materials such as graphene, hexagonal boron nitride, transition metal dichalcogenides and phosphorene. Chemical functionalization using dopants allows for an unprecedented control over their physical properties. The proposed material systems provide a new arena to explore diverse condensed matter phenomena such as electron correlation, electron-phonon coupling and superconductivity.



07.07.2015
16⁴⁵ Uhr / HS III

