SFB1242

Nichtgleichgewichtsdynamik kondensierter Materie in der Zeitdomäne

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Some applications of machine learning to solid-state physics

Prof. Dr. Miguel Marques

Universität Halle

The development of density-functional theory in the 1960s and the dissemination of computers led to a revolution in materials science. A third kind of physics, computational physics, emerged to complement its theoretical and experimental sisters. By solving theoretical models in a computer we had access to quantitative results for specific systems. These numerical experiments could explain experiments or be used to predict new materials. Nowadays, we are witnessing a revolution in the field brought about by machine learning methods. These are extremely efficient statistical models that are able to learn from data, and that have already found important applications in solid-state physics. I will present a few of these applications, ranging from the field of materials discovery to the development of density-functionals.

Für diese Zeit steht eine Kinderbetreuung nach vorheriger Anmeldung zur Verfügung.

Contact: Prof. Dr. Björn Sothmann, Faculty of Physics
Phone: +49 (203) 37-91578 / Mail: bjoerns@thp.uni-due.de