

Non-equilibrium carrier dynamics in two-dimensional materials

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Studying the thermalization dynamics of non-equilibrium carrier distributions in solids allows valuable insights into the interaction processes that couple electronic, phononic and spin degrees of freedom. This lecture will introduce into relevant aspects of carrier relaxation and thermalization in two-dimensional materials. Theoretical results will be discussed and compared with experimental findings.

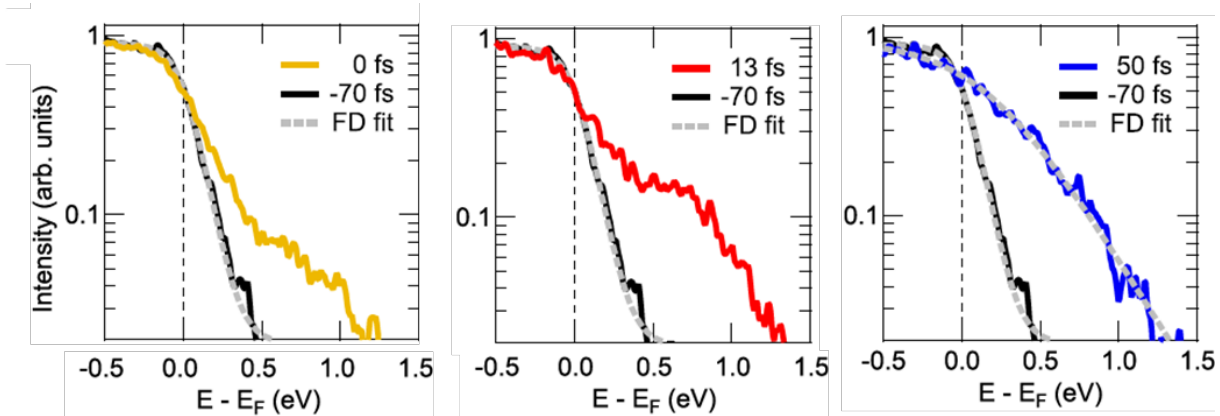


Figure 1: Formation of a Fermi-Dirac distributed electron gas in graphite within 50 fs following the excitation with a 7 fs near-infrared laser pulse. (Figure taken from [1].)

[1] G. Rohde, A. Stange, A. Müller, M. Behrendt, L.-P. Oloff, K. Hanff, T. Albert, P. Hein, K. Rossnagel, and M. Bauer, *Decoding the ultrafast formation of a Fermi-Dirac distributed electron gas*, eprint arXiv:1804.01403