UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

Theorie-Kolloquium WS 2023/24
Fr 10.11.2023, 14:00-15:30
MC 351 & online (URL in E-Mail)

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Carrier-phonon kinetics in semiconductors

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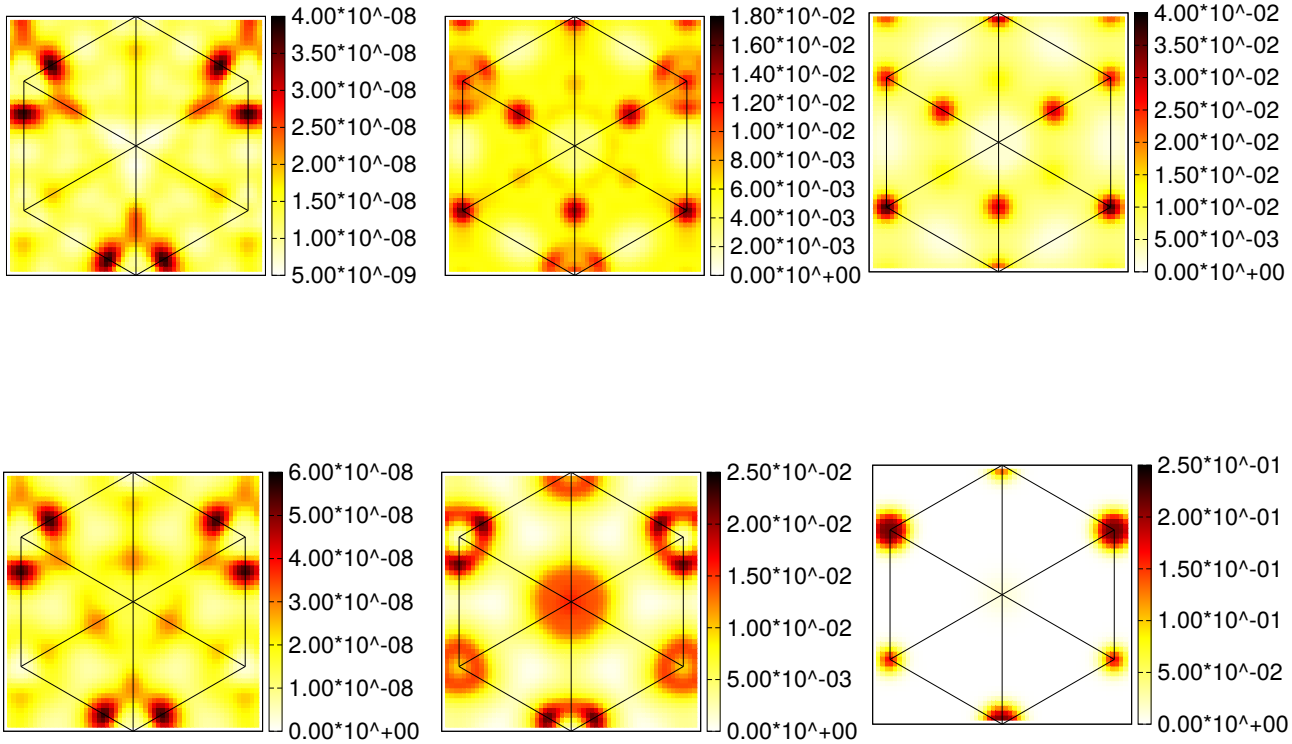

In my talk I will discuss the influence of quantum kinetic phenomena on the carrier kinetics in various material systems. I will show that usual non-Markovian approaches to takle these issues fail if the carrier-phonon interaction is too strong and show a possible solution.
In TMDCs the situation is more involved, as various phonon modes are of equal importance. As the solution discussed above is numerically not feasible in this case, I present an impromptu solution that leads to correct thermalization and discuss the differences to thermalization based on Fermi's golden rule in the framework of Boltzmann kinetics.