On a Shockley-Read-Hall Model for Semiconductors: Convergence to Equilibrium

Vera Miljanovic[1] <vera@deana.math.tuwien.ac.at>
Christian Schmeiser[2]< Christian.Schmeiser@tuwien.ac.at>

We are considering a drift-diffusion and a kinetic model for the flow of electrons in a semiconductor crystal, incorporating the effects of recombination-generation via traps distributed in the forbidden band. In mathematical terms, model consists of a reaction-diffusion-convection equation for the electric field and an integro-differential equation for the distribution of occupied traps. We derive formal and rigorous asymptotics, and show convergence.

[1]TU Wien
[2]TU Wien