

A Monte Carlo technique for the Wigner-Boltzmann equation

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Abstract. In this seminar, Dr Jean Michel Sellier will present the Wigner Monte Carlo method and its application to the field of semiconductor nanodevice simulations. Some detail about the physics and the mathematical theory will be presented. In particular, he will present some results that have been very recently obtained at the Bulgarian Academy of Sciences. They represents the very first results of their kind in the field and are among the most advanced in the field of semiconductor device simulations. Applications and benchmarks in 1D and 2D cases will be presented to show the validity and reliability of the approach. The future of the method will also be briefly discussed.