

Recent Results for (1) The Smooth Quantum
Hydrodynamic Model for Semiconductor Devices, & (2)
An Electrodiffusion Model of the Biological Channel

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Abstract: Some recent modeling and simulation results are presented: (1) Smooth QHD simulations of the resonant tunneling diode are compared with NEMO and Schrodinger equation results. A brief introduction to the smooth QHD model will be given. (2) An electrodiffusion model of rectangular ionic current pulses in the biological channel will be presented, and simulations will be compared with experimental data.