

# Asymptotic preserving schemes for highly oscillatory kinetic equations

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This work is devoted to the numerical simulation of a highly oscillatory kinetic model describing a beam in a periodic focusing channel, under the action of a rapidly oscillating external electric field. Starting from the Vlasov-Poisson equation, we construct an Asymptotic Preserving numerical scheme in this highly oscillatory limit. To that purpose, a modification of the micro-macro decomposition strategy is used, based on a double-scale formulation of the original equation.

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