

Mathematics > Analysis of PDEs

Propagation of chaos for particles approximations of Vlasov equations with singular forces

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We obtain the mean field limit and the propagation of chaos for a system of particles interacting with a singular interaction force of the type $1/|x|^{a}$, with $|a||^{a} < 1$ in dimension $d \geq 3$. We also provides results for forces with singularity up to $|a||^{a} < 1$ but with large enough cut-off. This last result thus almost includes the most interesting case of Coulombian or gravitationnal interaction.

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