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Asymptotic stability of an evolutionary nonlinear Boltzmann-type equation

In the presentation a sufficient condition for the asymptotic stability with respect to total variation norm of semigroup generated by an abstract evolutionary non-linear Boltzmann-type equation in the space of signed measures with the right-hand side being a collision operator is presented. For this purpose a sufficient condition for the asymptotic stability of Markov semigroups acting on the space of signed measures for any distance ([5]), adapted to the total variation norm, joined with the maximum principle for this norm is used. The presentation generalizes the result in [5] related to the same type of non-linear Boltzmann-type equation, where the asymptotic stability in the weaker norm, Kantorovich-Wasserstein, was investigated.

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