

SEMIGROUP FACTORIZATION AND RELAXATION RATES OF KINETIC EQUATIONS

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ABSTRACT. We present various results about the relaxation rates of kinetic equations. They are based on a quantitative factorization method for non-symmetric operators and their semigroup for changing the functional space of decay estimates. This method has been developed for understanding the so-called H-theorem in kinetic theory on the rate of increase of entropy for the nonlinear Boltzmann equation. We will present the results obtained on the H-theorem as well as ongoing work results of sharp relaxation rates for Fokker-Planck dynamics. This is based on joint works with Gualdani and Mischler.