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**Propagation of chaos for the Landau equation**

**Abstract**

We prove a quantitative result of convergence of a conservative stochastic particle system to the solution of the homogeneous Landau equation for hard potentials. There are two main difficulties: (i) the known stability results for this class of Landau equations concern regular solutions and seem difficult to extend to study the rate of convergence of some empirical measures; (ii) the conservativeness of the particle system is an obstacle for (approximate) independence. To overcome (i), we prove a new stability result for the Landau equation for hard potentials concerning very general measure solutions. Due to (ii), we have to couple, our particle system with some non independent nonlinear processes, of which the law solves, in some sense, the Landau equation. We then prove that these nonlinear processes are not so far from being independent. Using finally some ideas of Rousset, we show that in the case of Maxwell molecules, the convergence of the particle system is uniform in time.