

THE LORENTZ GAS: GOING BEYOND THE BOLTZMANN-GRAD LIMIT

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We use coupling methods to prove a central limit theorem for the Lorentz process in a random scattering configuration in the low density limit as time is taken to infinity. It has long been known that the random Lorentz process in the low-density limit converges (in several senses) to a random flight process for a finite time. We use this connection to motivate coupling the two processes in order to prove a central limit theorem for the Lorentz process in infinite time. This is joint work with Bálint Tóth.