

Derivation of the BGK equation from a stochastic particle
system

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Abstract : I consider an interacting stochastic particle system in which any particle can instantaneously locally thermalize in the spirit of the original Bhatnagar, Gross, and Krook famous paper. Under a suitable scaling limit, propagation of chaos does hold and that the one-particle distribution function converges to the solution of the BGK equation. This is the content of a paper by P. Butta, M. Hauray and myself.