1146-60-228   **Padmanabhan Sundar*** (`psundar@lsu.edu`), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *The Boltzmann-Enskog process for soft and hard potentials.* Preliminary report.

The density of a moderately dense gas evolving in a vacuum is given by the solution of the Boltzmann-Enskog equation. The stochastic process that corresponds to the equation is identified as the solution of a McKean-Vlasov equation driven by a Poisson random measure. Based on a system of interacting particles with binary collisions, the existence of an Enskog process is established for a wide class of collision kernels. A suitable coupling inequality leads to a proof of uniqueness and stability of solutions to the Boltzmann-Enskog equation. This is a joint work with B. Ruediger and M. Friesen. (Received January 23, 2019)