1106-35-1383   **P-E Jabin*** (`pjabin@umd.edu`), CSCAMM and Dpt of Mathematics, University of Maryland, Colleges Park, MD 20742. *Well posedness for solutions to linear kinetic equations with rough force fields.*

We show existence and uniqueness of a DiPerna-Lions flow for relativistic or classical particles subject to rough force field. Typical and important examples include oscillating electric fields or even a Lorentz force where electric and magnetic fields solve the linear Maxwell system in the vacuum but for singular initial conditions. which are only in the physical energy space. We are able to show that it is possible to relax the BV assumption on the force field by a careful analysis of the cancellations over a trajectory. (Received September 12, 2014)