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# Effects of Resistivity Dependent Scattering in Test Particle Simulations

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In MHD simulations of magnetic reconnection it is common to take an enhanced anomalous resistivity relative to the Spitzer resistivity in the solar corona in order to obtain reconnection rates comparable to those required to drive a solar flare. Particle acceleration in a reconnection environment studied by performing test particle simulations with fields specified by the results of MHD simulations encounters a flaw in that the electric field produced in the MHD simulations may be unrealistic due to the high value of anomalous resistivity. Since resistivity is fundamentally a result of particle scattering we attempt to account for the anomalous resistivity used in MHD simulations in the particle dynamics by introducing pitch angle scattering with a scattering rate dependent on the ratio of the anomalous resistivity to the Spitzer resistivity. To do this we perform 2d simulations of magnetic reconnection with various values of anomalous resistivity into which we inject particles and compute their trajectories. We compare and contrast the resulting energy spectra for different scattering models and MHD simulations.