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Andrew Christlieb, Maureen Morton* (mortonm5@msu.edu) and **Jing-Mei Qiu.** *Higher order Strang split integral deferred correction methods for Vlasov equations.* Preliminary report.

We present arbitrary order time integration methods combined with Strang splitting and their application to the Vlasov equations within a semi-Lagrangian framework. These integral deferred correction (IDC) methods promise to be accurate and efficient time integrators because they easily extend simple lower order methods to higher order schemes by correcting provisional solutions. The goal is to determine the benefits and limitations of a higher order split time integrator obtained with the IDC framework in a semi-Lagrangian setting. The principles in this work can be extended to other operators suitable for splitting methods, such as Maxwell's equations. (Received September 21, 2009)