

Abstract Submitted
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A step towards addressing the temporal multi-scale problem.¹
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KRASNY, University of Michigan — Plasmas display multi-scale features in space
and in time. While application of methods such as Adaptive Mesh Refinement have
made progress with regards to resolving multi-scale features in space, the temporal
multi-scale nature of a two species plasma remains a challenging problem. Spectral
Differed Correction (SDC) is intended to address the temporal multi-scale problem.
In this work we consider the application of SDC to a particle formulation of the
Vlasov-Poisson system as a way of accelerating temporal convergence. In particular,
we consider the two-stream instability, as particle trapping is known to be an issue
for temporal acceleration methods.

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