

Abstract Submitted  
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**Time-Evolution of the Wigner Function in Phase-Space using Finite Differences** SHUBHABRATA RATH, TOMAS MATERDEY, University of Massachusetts Boston — Phase-space density holes are vortex-like nonlinear structures that have been observed in the magnetosphere. To study the time evolution of these structures we evolve the Wigner function in time by solving the quantum Vlasov equation using finite-differences.

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