

Abstract Submitted  
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**A Lower Hybrid Fluid Model and Asymptotic Solutions** XIAO-GANG WANG, Harbin Institute of Technology — Hall MHD is for ion dynamics with a zero mass electron fluid. EMHD is for electron dynamics with fixed (infinity mass) ions. Also, other approximations such as electron incompressibility and low frequency appraisal (by ignoring the displacement current) have limited the application of EMHD. We then introduce a Lower Hybrid Fluid model by keeping the higher order mass ratio terms in the two-fluid model to investigate the problems in a hybrid scale range between the electron skin depth and the ion inertial length.

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