

Abstract Submitted  
for the DPP20 Meeting of  
The American Physical Society

**Perpendicular electron acceleration by the lower-hybrid drift instability**<sup>1</sup> JONATHAN NG, University of Maryland, College Park, LI-JEN CHEN, Nasa Goddard Space Flight Center — Electrons are typically thought to be magnetized in the lower-hybrid drift instability. Recent MMS observations of the LHDI within the electron layer of guide-field reconnection, however, indicate that intense LHDI drives non-gyrotropic perpendicular electron heating. We perform 2- and 3-D kinetic simulations of the LHDI in a current layer. The evolution of the LHDI leads to the formation of electron distributions with core populations as well as accelerated crescent and ring populations. We discuss the dynamics of the different electron populations and their acceleration mechanisms and relate them to the observations.

<sup>1</sup>This work was supported by DOE Award DE-SC0016278 and NASA Grant 80NSSC18K1369

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Date submitted: 29 Jun 2020

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