

Abstract Submitted
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The Effect of Parallel Electric Fields on Ion Heating in Magnetic Reconnection COLBY HAGGERTY, University of Delaware — The structure and corresponding temperature of ion velocity distribution functions are examined as they encounter magnetic reconnection exhausts. For even modest ion beta ($\beta_i \approx 1$) we find that a significant upstream ion population will not reach the midplane. These modified exhaust distribution functions will affect the total heating due to reconnection. We then include the effect of the effective potential associated with field aligned electric fields described in Haggerty et. al 2015 to numerically calculate the ion heating prediction. This prediction is compared with numerous simulations and it is found to be consistent with ion heating in the exhaust.

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