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Jet deflection by very weak guide-fields during magnetic reconnection[1] MARTIN GOLDMAN, University of Colorado at Boulder, GIOVANNI LAPENTA, Katholicke Universiteit Leuven, Belgium, DAVID NEWMAN, University of Colorado at Boulder, STEFANO MARKIDIS, Katholicke Universiteit Leuven, Belgium, HAIHONG CHE, University of Colorado at Boulder — Simulations of anti-parallel reconnection have shown that collimated electron jets emanate from the x-point along the x-axis and are associated with both "inner" and highly elongated "outer" electron "diffusion" regions. New implicit PIC simulations show that jets are deflected from propagation along the x-axis by an out-of-plane guide field, B_g as small as 0.05 times the asymptotic reconnecting field, B_0 in plasmas with a *physical* ion-to-electron mass ratio of 1836 as well as with lower mass ratios. The outer electron diffusion region is distorted and broken up, but the diffusion rate is unchanged. Electron dynamics offers some insight into the underlying physics. Interpretations of reconnection signatures for both existing and for anticipated future measurements by spacecraft in the magnetosphere are likely to be influenced by these new results.

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