

Abstract Submitted
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Pressure anisotropy in two-fluid simulations of magnetic reconnection EVAN JOHNSON, UW-Madison — Our goal is to replicate PIC simulations of magnetic reconnection using a parsimonious two-fluid plasma model. We compare two-fluid simulations of the GEM problem with published simulations of the GEM problem using kinetic models (Vlasov and PIC). We find that incorporating viscosity allows the two-fluid model to agree fairly well with kinetic models both in the rate of reconnection and in the structure of the electron and ion diffusion regions. We also study the effect of incorporating heat flux.

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