






Erratum: “On the role of separatrix instabilities in heating the reconnection outflow region” [Phys. Plasmas 25, 122902 (2018)]

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In a recent paper¹ about electron heating at the reconnection separatrix, two figures depicting the contributions to the electron energy balance and the contribution to the total, quasi-viscous heating are incorrectly displayed. The correct figures are as follows:

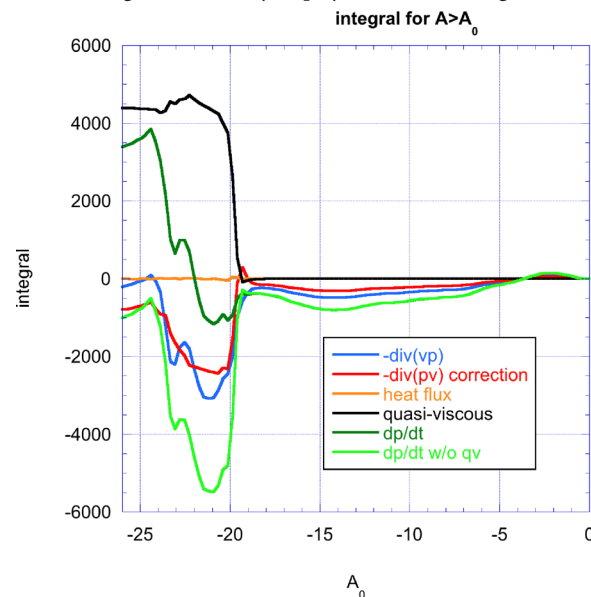


FIG. 11. Integration of the various terms of the energy equation over a volume bounded by flux tubes at $\Omega_e t = 29.94$. The figure shows that the quasi-viscous contribution is the main energy source. It becomes important as soon as the integration volume extends past the separatrix field line.

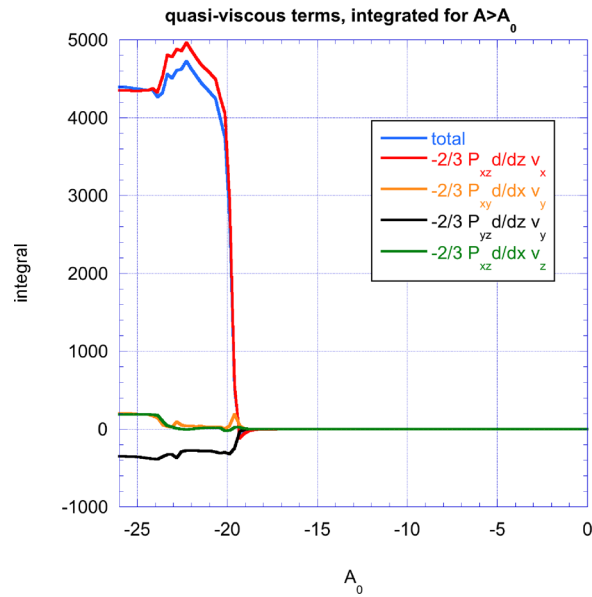


FIG. 12. Integration of the components of the quasi-viscous heating term $\Omega_{\perp} t = 29.94$. The dominance of the term $\sim P_{xz} \frac{\partial}{\partial z} v_x$ shows that heating is indeed related to velocity shear effects. The negative contributions of the term $\sim P_{yz} \frac{\partial}{\partial z} v_y$ at the separatrix dominate, by far, over the small positive contribution, which is in the electron diffusion region.⁷ In the absence of instabilities, the contribution $\sim P_{xz} \frac{\partial}{\partial z} v_x$ would likely be reduced and balanced by that $\sim P_{yz} \frac{\partial}{\partial z} v_y$.

⁷M. Hesse *et al.*, “On the role of separatrix instabilities in heating the reconnection outflow region,” *Phys. Plasmas* **25**, 122902 (2018).