Errata: J.A. Rossmanith. A wave propagation method with constrained transport for ideal and shallow water magnetohydrodynamics. PhD Thesis, University of Washington, 2002.

Claim 5.4.1 (Section 5.4.4): This claim is not correct. The Ryu, Miniati, Jones, and Frank method (RMJF) as well as the Balsara and Spicer method (BS) are in fact consistent numerical methods. Equation (5.42) in the proof reads:

$$F_{\text{BASE}} - F_{\text{CT}} \sim \Phi_i^y - \alpha \bar{\bar{\Phi}}_i^y + \alpha \bar{\bar{\Phi}}_i^x + \dots \;\; .$$

This equation is correct. It was incorrectly reported that the difference between F_{BASE} and F_{CT} is $\mathcal{O}(1)$. The difference between these two fluxes should actually be

$$F_{\text{BASE}} - F_{\text{CT}} \sim \mathcal{O}(\Delta x)\,,$$

for a general α. The reason for this is that the individual contributions Φ_i^x and Φ_i^y are of $\mathcal{O}(\Delta x)$, since they are comprised of the first order, second order, and transverse corrections. This proves consistency. An important component missing in the analysis presented in the orginal dissertation was the inclusion of transverse corrections. A more precise investigation of the error introduced by the BS and RMJF schemes when the base scheme is the LeVeque wave propagation method (LeVeque, *J. Comp. Phys.* **131**, 327-353 (1997)) will be presented in a future paper.

The oscillations seen when using the BS or RMJF schemes are therefore not due to an inconsistency. Oscillations can arise because of the fact that the numerical flux that eventually updates the cell centered magnetic field is not obtained through "proper" upwinding. See Balsara and Spicer, *J. Comp. Phys.* **149**, 270-292 (1999) for further discussion on this point.

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