Outline of my CT method

A note about notation: is located at the cell center, is located at the cell face and bold faces have been neglected.

1. Compute the electric field at the cell edge using the appropriate fluxes

Where is computed from the 4 surrounding cell centers.

1. Compute the flux of B from the edge curl of the electric field
2. Interpolate the CT method formula in "Tóth, G. The divergence Constraint in Shock-Capturing MHD Codes. J. Comput. Phys. 161, 605–652 (2000)."

This enforces

Maybe this can be represented in a cell centered B-field, need to look into this though.

# Equation

Meanwhile

Therefore we have

The divergence of this at the next time step is:

For uniform properties, we have