

Accepted Manuscript

An asynchronous spacetime discontinuous galerkin finite element method for time domain electromagnetics

Reza Abedi, Saba Mudaliar

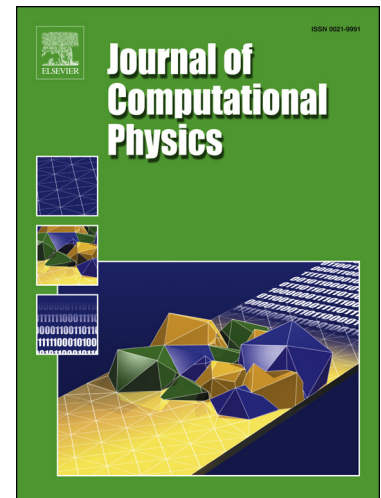
PII: S0021-9991(17)30651-4
DOI: <http://dx.doi.org/10.1016/j.jcp.2017.09.001>
Reference: YJCPH 7572

To appear in: *Journal of Computational Physics*

Received date: 8 April 2017
Revised date: 31 August 2017
Accepted date: 1 September 2017

Please cite this article in press as: R. Abedi, S. Mudaliar, An asynchronous spacetime discontinuous galerkin finite element method for time domain electromagnetics, *J. Comput. Phys.* (2017), <http://dx.doi.org/10.1016/j.jcp.2017.09.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Highlights

- Formulate all Maxwell's equations and spacetime fluxes in differential forms.
- Formulate a time domain discontinuous Galerkin method for electromagnetics.
- Achieve linear solution complexity and an asynchronous solution structure.
- L2, energy, and von Neumann dispersion numerical error analyses.
- Numerical results for 2D wave scattering problems with strong discontinuity.

Download English Version:

<https://daneshyari.com/en/article/4967122>

Download Persian Version:

<https://daneshyari.com/article/4967122>

[Daneshyari.com](https://daneshyari.com)