

1135-VN-2058      **Alex Ander Kirvan\*** (akirvan@asu.edu). *A Low Dispersion Numerical Scheme for Nonlinear Electromagnetic Propagation.*

I will describe a low dispersion numerical scheme that approximates solutions to wave equations. The scheme employs spatial and temporal staggering. It is applied to the nonlinear Maxwell Equations. Simulations are performed using two electromagnetic waves propagating through linear and nonlinear media with different frequencies. The nonlinear effect causes secondary wave generation. Comparison of the spectral response of the generated wave with that expected from theoretical arguments demonstrates the accuracy of the scheme. (Received September 25, 2017)