1135-VN-1528 **Casey J Smith*** (cjsmit55@asu.edu). *A Low Dispersion Numerical Scheme for Maxwell's Equations.*

The dispersion errors in numerical solutions to the Maxwell equations depend significantly on the method employed. Third-order Runge-Kutta (RK3) produces fourth-order accuracy in phase errors, whereas the classical Yee scheme generates second-order accuracy. Computational efficiency is also critical when numerically approximating electromagnetic wave propagation over long periods of time. A new time-differencing scheme will be presented. It requires only one evaluation per time-step and produces fourth-order accuracy in phase errors. (Received September 22, 2017)