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**Brandon Hoogstra\*** (bhoogstr@asu.edu), **Maher Achour**, **Joey Cimochoowski** and **Ché Ortega**. *Numerical Solutions of the Barotropic Non-Divergent Vorticity Equation in the Presence of Tropical Cyclones.*

Simulations of twin tropical cyclones using a recent numerical method within an idealized atmospheric model that solves the barotropic non-divergent vorticity equation in the beta plane were investigated. The model yields a two-dimensional physical interpretation of the development and the evolution of twin tropical cyclones. The research analyzes the effect of both the distance between the cyclones and the planetary vorticity upon the propagation of cyclones. The results demonstrate that as the distance between the cyclones decreases, the nonlinear interaction between the cyclones supersedes the planetary vorticity. (Received September 22, 2015)