

1086-37-2651 **Maila Capuno Bruca Hallare*** (brucalhallarem@tncc.edu), Thomas Nelson Community College, 99 Thomas Nelson Dr, Hampton, VA 23666. *Antidiffusion lattice differential equations with quadratic nonlinearity.*

We consider a system of lattice differential equations with quadratic nonlinearity, but with a negative discrete diffusion coefficient. We are interested in the existence, uniqueness, stability, and nonexistence of the traveling wavefront solutions of this system. By rewriting this system as a spatially periodic system with inhomogeneous but positive periodic diffusion coefficients and periodic nonlinearities, we uncover a rich solution behavior that includes many possible connecting orbits in the antidiffusion case. (This paper applies the computational framework set forth in a paper published by the author in SIAM J of Applied Dynamical Systems; the title of the paper is Traveling Wavefronts in an Antidiffusion Lattice Nagumo Model.) (Received September 25, 2012)