1093-37-369 **Aaron Hoffman*** (aaron.hoffman@olin.edu), Olin College, Needham, MA 02492. *The slip-stick process for lattice differential equations.* Preliminary report.

We consider the following simple model of phase separation in two dimensions for spatially discrete media:

$$\dot{u}_{ij} = u_{i+1,j} + u_{i-1,j} + u_{i,j+1} + u_{i,j-1} - 4u_{ij} + u_{ij}(u_{ij} - 1)(\rho - u_{ij}).$$

It is well known that this model exhibits pinning (i.e. the failure of a more energetically favorable equilibrium to invade the domain of a less energetically favorable equilibrium) over a range of parameter values called the pinning region. We study a so-called stick-slip invasion process at the boundary of the pinning region and relate its presence to the sensitive dependence of the wave speed of a planar front in this system on the direction which it faces. This is joint work with HJ Hupkes. (Received August 20, 2013)