

1083-35-122

Xinfu Chen and **King-Yeung Lam***, lam.184@osu.edu, and **Yuan Lou**. *Faster vs Slower Diffuser*.

We study the dynamics of a reaction-diffusion-advection model for two competing species in a spatially heterogeneous environment. Primary interest is in the outcome of the competition between two species which are assumed to have the same population dynamics but different dispersal strategies: both species diffuses by a combination of random diffusion and advection along the environmental gradient, but with different diffusion and/or advection rates. We show that when the advection rates are large, then the faster diffuser wins the competition, this is in contrast to the previously known result that the slower diffuser prevails when there is small or no advection in [Dockery et. al, JMB (1998)]. (Received August 24, 2012)