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Jian Fang (wujh@mathstat.yorku.ca), **Yijun Lou** (wujh@mathstat.yorku.ca) and **Jianhong Wu*** (wujh@mathstat.yorku.ca). *How fast can an invasive species propagate in a wave-like environment?* Preliminary report.

We consider the issue whether an invasive species can propagate in the same speed as the wave-like environment. This is modeled as a scalar reaction-diffusion equation with a logistic nonlinear term involving the wave-like carrying capacity. Some open problems by Berestycki, Nirenberg and Varadhan are resolved in this setting. The general results are also applied to answer the question whether a pathogen can spread following the invasion of its host. This is a joint work with J. Fang and Y. Lou. (Received August 20, 2013)