1127-92-182 **garrett luther otto*** (garrett.otto@louisville.edu), 328 natural sciences bldg, university of louisville, louisville, KY 40292. *Spatially localized equilibrium solutions in integro-difference equations exhibiting Allee and over-compensation effects.*

Previous work in integro-difference equations, which considers Allee effect and over-compensation separately, has shown the existence of constant spreading speeds and traveling wave solutions. In our work, we demonstrate the existence of spatially localized equilibriums when Allee and over-compensation effects are combined. We show these equilibriums are robust in that they occupy a set of full measure in parameter space, and that these equilibria are compatible with the Uniform, Laplace, and Gaussian dispersal kernels. Our numerical work shows that perturbations of these equilibria lead to stable quasi-periodic distributions that are also strongly and persistently spatially localized. These surprising results demonstrate that under appropriate conditions patch like populations can arise entirely from endogenous mechanisms even in a homogeneous environment. (Received February 07, 2017)