

Biomathematics Seminar Series

Department of Mathematics and Statistics

Time State Equilibriums for Biological Systems with Discontinuous Coefficients



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Meeting ID: 965 3780 3206*

<https://zoom.us/j/96537803206>

We develop and analyze a spatial temporal model of light driven ecotoxicological processes, motivated by an aquatic predator-prey system of algae and Daphnia subject to a contaminant. Population dynamics are driven by light, which is periodic in time and varies with spatial depth. Given a toxicant perturbation to the system we show that, assuming certain parameter conditions, that the system will return to an equilibrium state. Analytical results assume some Dirichlet boundary conditions that match the periodic equilibrium.



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