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Azmy S Ackleh* (ackleh@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504, and **Jacoby Carter, Vinodh Chellamuthu, Baoling Ma** and **Tingting Tang**. *A general structured population model with application to amphibians and associated diseases*. Preliminary report.

We present a general class of Susceptible-Infected (SI) structured population models that applies to problems arising in ecology, epidemiology and cell biology. The SI model consists of a system of quasilinear hyperbolic partial differential equations coupled with a system of nonlinear ordinary differential equations. We develop a second-order high-resolution finite difference scheme to approximate the solution of the model. Convergence of the numerical approximations to a weak solution with total bounded variation is proved. This model is then applied to understand the dynamics of amphibians with Chytridiomycosis (an infectious disease implicated in the decline or extinction of many amphibian populations). (Received September 07, 2014)