1067-39-627   **Sukanya Basu*** (`sukanya.basu@mwsu.edu`), 3410 Taft Blvd., Wichita Falls, TX 76308. *Global Attractivity of Equilibria and Existence of Prime Period-Two Solutions for a Class of Planar Systems of Difference Equations.*

For nonnegative parameters α_1, β_1, γ_1, A_1, B_1, C_1, α_2, β_2, γ_2, A_2, B_2 and C_2, consider the system of first-order rational difference equations

$$\left.\begin{aligned} x_{n+1} &= \frac{\alpha_1 + \beta_1\, x_n + \gamma_1\, y_n}{A_1 + B_1\, x_n + C_1\, y_n} \\[2ex] y_{n+1} &= \frac{\alpha_2 + \beta_2\, x_n + \gamma_2\, y_n}{A_2 + B_2\, x_n + C_2\, y_n} \end{aligned}\right\}, \quad n = 0, 1, 2, \ldots \tag{1}$$

where

$$\alpha_i + \beta_i + \gamma_i > 0 \quad \text{and} \quad A_i + B_i + C_i > 0 \quad \text{for} \quad i = 1, 2.$$

System (1) consists of 2401 individual planar systems of first-order rational difference equations which include the Leslie-Gower Model from theoretical ecology analyzed by Cushing et. al. in 2006. I will talk about the global behavior of solutions, stability of equilibria and existence of prime period-two solutions for certain subclasses of (1). (Received September 12, 2010)