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STABILITY ANALYSIS OF TWO COMPETITIVE INTERACTING SPECIES WITH A CONSTANT RESERVE FOR ONE OF THE SPECIES

R. ARCHANA REDDY[1] AND N. Ch. PATTABHI RAMACHARYULU[2]

[1] Asso. Professor in Mathematics,
Department of Humanities and Sciences, SREC, Warangal, India
[2]Former Faculty, National Institute of Technology, Warangal, India

Abstract

This investigation is on a two species competing model with a constant reserve for one of the species. The mathematical model is characterized by a couple of first order non-linear ordinary differential equations. The equilibrium points of the model are identified and stability criteria are discussed. Solutions for the linearized perturbed equations are found and results are illustrated. The numerical solutions for the growth rate equations are computed using Runge Kutta fourth order method.

Key Words : *Competition, Stability criteria, Steady state, Equilibrium points, Carrying capacities.*

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