

Complex Dynamics Of A Four Species Food- Web Model

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Abstract: The four species food web system consisting of two prey species for a generalist middle predator and a top predator is considered. A dynamical model is proposed and investigated. The middle predator is preying over both the prey species and modified Holling type - II functional response is assumed. The food web model is found to be well posed, bounded and dissipative. The essential dynamical features of the proposed mathematical model are studied in terms of local stability and bifurcation. Numerical simulations have been performed to explore the existence and control of chaos.

References:

- 1.Hastings A. and Powell T., Chaos in a Three-Species Food Chain. Ecology (1991) ;72: 896-903.
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