

PERSISTENCE AND STABILITY FOR SOME COOPERATIVE POPULATION MODELS WITH DELAYS

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ABSTRACT

For a large family of cooperative delay differential equations (DDEs) with delay, some criteria for extinction, persistence, permanence and stability are given. Our methods [1, 2] can be applied to a number of monotone DDEs used as models in population dynamics. By using comparative results, it also enables us to deal with systems which are not cooperative. In particular, it applies to a non-autonomous scalar and n -dimensional model proposed as an alternative to the usual delayed logistic equation [3].

References

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