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Asymptotic behaviour for nonautonomous delay differential systems

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The global dynamics of a family of nonautonomous systems of delay differential equations is studied. This family includes structured systems inspired in mathematical biology models, with either discrete or distributed delays in both the linear and nonlinear terms. Sufficient conditions for the persistence and permanence are established. For periodic systems, criteria for the existence of positive periodic solutions are also given. The results are illustrated with applications.

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