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A prey-predator model with gestation period

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In this talk, we consider the dynamics of a Lotka-Volterra prey-predator model by a class of delay differential equations. The number of prey varies due to a general nonlinear predators' consumption rate with delays. Under the assumption that the consumption rate is monotonically increasing with respect to the number of prey, we investigate the effect of the nonlinearity and delays on the asymptotic behaviour of the model. For the case where the consumption rate is described not only as Holling type I,II but also as Holling type III, some ongoing studies are also introduced. Comparison for the assumptions on the incidence rates appearing in prey-predator models with those in epidemiological models, will be also discussed.

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