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Dynamic complexity of a two-prey one-predator system with impulsive effect. (English)

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The dynamic complexity of a two-prey one-predator system with impulsive perturbation on predator at fixed moments are investigated. The system displays complicated phenomena including a sequence of direct and inverse cascade of periodic-doubling, chaos, and symmetry breaking bifurcation. Moreover, the effect of the period of releasing predator on the dynamical behaviors of the unforced continuous system are also discussed. They find that periodically releasing predator at fixed moments change the properties of the unforced continuous system.

Reviewer: [Hai-Feng Huo \(Lanzhou\)](#)

MSC:

[34C60](#) Qualitative investigation and simulation of ordinary differential equation models

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[92D25](#) Population dynamics (general)

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