

## THE INTERACTION OF PREDATOR PREY WITH UNCERTAIN INITIAL POPULATION SIZES

(Interaksi Pemangsa-Mangsa dengan Saiz Awal Populasi Tak Pasti)

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### ABSTRACT

Differential model of dynamical predator-prey system contains some factors that constitute a formal description of features of the interaction between the predator and its prey. The initial population sizes are the factors which affect the behaviour of the predator-prey interaction. These factors may not be uniquely defined. In this paper we study the effect of uncertain initial population sizes of predator and prey on the behaviour of predator-prey interaction. Results based on numerical simulations are discussed.

*Keywords:* Predator-prey; initial conditions; uncertainty; normal distribution

### ABSTRAK

Model pembezaan sistem dinamik pemangsa-mangsa mengandungi beberapa faktor yang merupakan perihalan formal ciri interaksi antara pemangsa dengan mangsanya. Saiz awal populasi merupakan antara faktor yang mempengaruhi tingkah laku interaksi pemangsa-mangsa. Faktor ini tidak semestinya tertakrif secara bitara. Dalam makalah ini dikaji kesan saiz populasi awal tak pasti terhadap tingkah laku interaksi pemangsa-mangsa. Hasil kajian berdasarkan simulasi berangka dibincangkan.

*Kata kunci:* Pemangsa-mangsa; keadaan awal; ketidakpastian; taburan normal

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