

ABSTRAK

Husnul Khotimah: *Perbandingan Dinamika Model Arms Race Richardson dan Model Modifikasi Arms Race Richardson.*

Dalam skripsi ini penulis menguraikan tentang model *Arms Race* Richardson dan model modifikasi *Arms Race* Richardson dengan *carrying capacity*. Kemudian mencari titik *equilibrium* serta menentukan kestabilan titik *equilibrium* model *Arms Race* Richardson dan model modifikasi *Arms Race* Richardson. Pencarian titik *equilibrium* pada model modifikasi dengan konsep *nullcline*. Sehingga didapat beberapa titik *equilibrium*. Menentukan kestabilan titik dengan nilai eigen. Simulasi dilakukan untuk memperoleh perbandingan dinamika model *Arms Race* Richardson dan model modifikasi *Arms Race* Richardson. Pengerjaan simulasi menggunakan metode Runge-Kutta orde empat dengan bantuan software Matlab.

Kata kunci: *Persamaan diferensial, nullcline, carrying capacity, matriks Jacobi, metode Runge-Kutta orde empat.*



ABSTRACT

Husnul Khotimah: *The Comparative of Dinamic Arms Race Richardson Model and Modification of Arms Race Richardson Model*

In this paper the writer explain about the *Arms Race* Richardson model and the modification of *Arms Race* Richardson model by *carrying capacity*, then the writer look for the point of *equilibrium* and determine the stability of *equilibrium* point in *Arms Race* Richardson model and modification *Arms Race* Richardson model. The investigating of *equilibrium* point of modification model by *nullcline*. Untul it's gotten some *equilibrium* point. Determine the stability of the point by eigen value. Then the simulation is done for getting the comparation of dynamics in *Arms Race* Richardson model and the modification *Arms Race* Richardson model. The simulation spelling use the forth orde Runge-Kutta method with the using of Matlab software.

Keywords: *differential equation, nullcline, carrying capacity, matrik sJacobi, forth orde Runge-Kutta method.*

