POTRET FASE SISTEM KUADRATIK DENGAN TITIK KRITIS HIPERBOLIK

SKRIPSI

PURWANTO

JURUSAN MATEMATIKA
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS AIRLANGGA
SURABAYA
2002

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DENGAN TITIK KRITIS HIPERBOLIK

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**Sebagai salah satu syarat untuk memperoleh gelar Sarjana Sains (SSi)
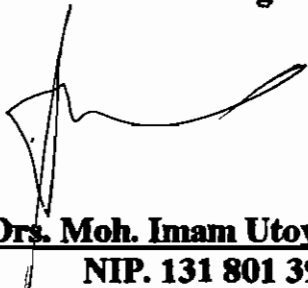Bidang Matematika pada Fakultas Farmasi Universitas Airlangga
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Judul	: POTRET FASE SISTEM KUADRATIK DENGAN TITIK KRITIS HIPERBOLIK
Penyusun	: PURWANTO
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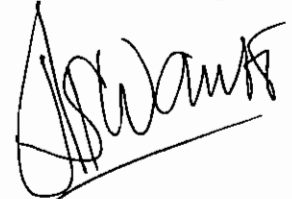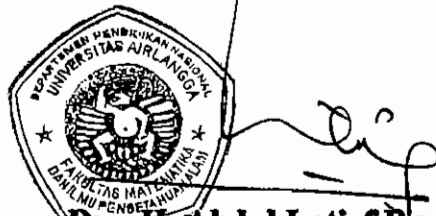NIP. 131 801 397

Pembimbing II

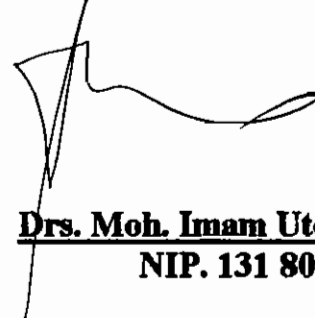Drs. Miswanto, M.Si.
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ABSTRACT

The solutions of nonlinear differential system, especially quadratic system is difficult to obtain with analytical method. In order to determine that solutions emphasize with behaviors the solutions of nonlinear differential system than the solutions itself. One of methods to determine nonlinear differential system is approximate that solutions with linear system.

Taylor's linearized is one of methods to approximate behaviors of solutions quadratic system $\dot{x} = f(x)$ near hyperbolic critical points x_o with behaviors solutions linear system $\dot{x} = Ax$ in R^2, $A = Df(x_o)$. In order to determine phase portrait of quadratic system with hyperbolic critical point use Maple 6.

Keyword : phase portrait, hyperbolic critical point, Taylor's linearized