

ECH 267 Nonlinear Control Theory

Lecture Notes

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1 Lecture #1

I think this should be a chapter

Lecture 8

Lyapunov Stability of Equilibrium

Given...

$\dot{x} = f(x, u)$ and $u = k(x)$ such that...

$\dot{x} = f(x)$ where $f : D \rightarrow \mathbb{R}^n$ is locally Lipschitz Continuous

$$\|f(x) - f(y)\| \leq L \|x - y\|$$

Lecture 10

La Salle's Theorem Example

Invariance Theory:

$$\dot{x}_1 = x_2$$

$$\dot{x}_2 = -a(x_1) - kx_1 - dx_2 - cx_3$$

$$\dot{x}_3 = -x_3 + x_2$$