1. Linear dynamical systems

Linear

Let:

- $(\mathbb{R}^n, f)$ euclidean functional dynamical system

Then, $(\mathbb{R}^n, f)$ is linear if:

- $\exists\, A \in \mathcal{M}_{n\times n}(\mathbb{R})$:
  - $\forall\, x \in \mathbb{R}^n$:
    - $f(x) = Ax$

Invariant curve

Let:

- γ differentiable curve
- $p \in \mathbb{R}^n$

Then, γ is invariant if:

- $\forall\, x \in \gamma*$:
  - $o(x) \subset \gamma*$

Then, γ is converges to $p$if:

- $\forall\, x \in \gamma*$:
  - $o(x) \xrightarrow{n} p$