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Constant of a flow in $\mathbb{R}^n$

Definition. **Integral of flows of a vector field in $\mathbb{R}^n$**

$G : \mathcal{U} \to \mathbb{R}$ is a conserved quantity for the flows of $\mathbf{f} : \mathcal{D} \subseteq \mathbb{R}^n \to \mathbb{R}^n$ if

$$\partial_{\mathbf{f}} G(p) = 0, \forall p$$

$\gamma(t)$ be a integral curve of $\mathbf{f}$ then $(g \circ \gamma)'(t) = 0$

reduce the dimension

$\mathbf{f}(x_1, x_2)$. If $g(x_1, x_2) = c$ represents a curve parameterised by θ_c , that is change the variables to

$$(x_1, x_2) \to (\theta, c)$$

such that c is constant

Current note has 0 direct children and 0 total descendants.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - Vec ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in $\mathbb{R}^n$
      - cons Constant of a flow in $\mathbb{R}^n$

And it has 10 siblings.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - Vec ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in $\mathbb{R}^n$

- cons Constant of a flow in $\mathbb{R}^n$
- Euler method Euler's iterative solution method for first order ODEs
- existence Existence of integral curves of vector fields in $\mathbb{R}^n$
- fixed Fixed points
- flows Flow of a vector field in $\mathbb{R}^n$
- from graphs Graph $\to$ polynomial ODE
- grad Gradient flows on $\mathbb{R}^n$
- Hamiltonian Hamiltonian vector fields in $\mathbb{R}^{2n}$ with standard symplectic form
- probability distribution Probability distribution of flow
- volume Volume change by flows on $\mathbb{R}^n$