Info

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Linear first-order Cauchy problem on a smooth manifold

(Linear first-order Cauchy problem on a smooth manifold) Let M be a manifold, $S \subseteq M$ an embedded hypersurface, $A \in \mathrm{Vec}(M)$ a vector field that is *nowhere tangent* to S, functions $b, f \in \mathcal{C}^\infty(M), \varphi \in \mathcal{C}^\infty(S)$. Then for some neighborhood $U \supseteq S$ in M there **exists a unique** $u \in \mathcal{C}^\infty(U)$ such that

$$Au + bu = f$$
$$u\Big|_S = \varphi$$

Current note has 0 direct children and 0 total descendants.

- structures based on sets
  - manifolds
    - smooth $\mathbb{R}$-manifold
      - Functions from smooth manifolds to $\mathbb{R}$
        - Equations for functions on smooth manifolds
          - Linear first-order Cauchy problem on a smooth manifold

And it has 2 siblings.

- structures based on sets
  - manifolds
    - smooth $\mathbb{R}$-manifold
      - Functions from smooth manifolds to $\mathbb{R}$
        - Equations for functions on smooth manifolds
          - General first order Cauchy problem on a smooth manifold
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