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Fractional derivative

Definition. Definition

For any $s \in \mathbb{R}$ the function

$$\xi \mapsto (1 + |\xi|^2)^{s/2} \in \mathcal{C}^\infty(\mathbb{R}^d)$$

and is *slowly increasing*.

The map

$$\begin{aligned} \Lambda_s : \mathcal{S}^\star &\rightarrow \mathcal{S}^\star \\ f &\mapsto ((1 + |\xi|^2)^{s/2} \hat{f})^\vee \end{aligned}$$

is a linear homeomorphism with inverse Λ_{-s} .

Current note has 0 direct children and 0 total descendants.

- stem
 - subobjects of and functions on $\mathbb{R}^n, S^n, \mathbb{C}^n$ and its quotients $\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n$
 - Differentiable functions
 - Fractional derivative

And it has 10 siblings.

- stem
 - subobjects of and functions on $\mathbb{R}^n, S^n, \mathbb{C}^n$ and its quotients $\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n$
 - Differentiable functions
 - Functions $(a, b) \rightarrow \mathbb{R}$ differentiable at a point
 - Comparing a function and it derivative
 - Absolutely continuous functions on $[a, b] \leftrightarrow \int_{[a, -]} (L^1[a, b])$
 - Distributional derivatives
 - Double derivative/Laplace operator on the circle
 - Fractional derivative
 - Infinite limit of derivatives
 - Space of continuous and continuously differentiable functions on $\mathbb{R}$
 - Derivative of maps $\mathbb{R}^n \rightarrow \mathbb{R}^m$
 - Zooming of a map $\mathbb{R}^n \rightarrow \mathbb{R}^m$