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Quasi-analytic smooth functions on \mathbb{R}

Definition. Definition

Let $\{M_n\} \in (0, \infty)^{\mathbb{N}}$ be a sequence of positive real numbers. Then

$$\mathcal{C}^\infty(U)_{\lesssim M} := \left\{ f \in \mathcal{C}^\infty(U) \mid \forall n \in \mathbb{N}, \|f^{(n)}\|_\infty \leq \beta_f B_f^n M_n \right\}$$

The class $\mathcal{C}^\infty(U)_{\lesssim M}$ is said to be **quasi-analytic** if

$$f \in \mathcal{C}^\infty(U)_{\lesssim M}, p \in U, f^{(n)}(p) = 0 \implies f \equiv 0 \text{ on } U$$

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 - [smooth quasi-analytic](#) Quasi-analytic smooth functions on \mathbb{R}

And it has 36 siblings.

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 - [Rf](#) subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
 - [1Hol](#) Holomorphic functions on spaces over \mathbb{C} of dimension 1
 - [circle packing](#) Circle packing on \mathbb{R}^2
 - [circle packing to Riemann map](#) Circle packing converges to the Riemann biholomorphism
 - [Cn conn open bounded](#) Bounded connected open subsets of \mathbb{C}^n
 - [Cn conn open circular](#) Connected circular open subsets of \mathbb{C}^n
 - [cont](#) Continuous functions on \mathbb{R}^d

- [cube dyadic](#) Dyadic cubes
- [curves](#) Curves
- [derivative](#) Differentiable functions
- [forms](#) Differential forms on \mathbb{R}^n
- [Fourier-Wigner](#) Fourier-Wigner transform
- [harmonic composed conformal](#) Harmonic functions composed with conformal maps
- [Hilbert](#) Hilbert transform
- [hol harmonic disk-circle](#) Fourier-Cauchy-Poisson correspondence of holomorphic and harmonic functions on the unit disk and their boundary values
- [Hol sets](#) Holomorphic subsets of \mathbb{C}^n
- [hypersurf 2n reg](#) Regular hypersurfaces in \mathbb{R}^{2n}
- [hypersurf or](#) Orientable hypersurfaces in \mathbb{R}^n
- [KG](#)

$$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2 + m^2$$

- [Laplace](#) Laplace operator on \mathbb{R}^n
- [Lmeas](#) Lebesgue measurable subsets of and functions on \mathbb{R}^n, T^n, S^n
- [Lmeas bd of open](#) Lebesgue measure of boundary of open sets in \mathbb{R}^n
- [met density](#) Metric density of subsets of \mathbb{R}^n
- [Mobius n-sphere](#) Mobius endomorphisms
- [monotone](#) Monotone functions on \mathbb{R}
- [periodic int Cauchy](#) Cauchy integral of periodic functions
- [poly int](#) Polygons with integer vertices
- [R 2 open smooth End](#) Open smooth maps $U \subseteq \mathbb{R}^2 \rightarrow \mathbb{C}$
- [R n discrete subg](#) Discrete subgroups of \mathbb{R}^n
- [R n discrete subg cocpt](#) Discrete cocompact subgroups of \mathbb{R}^n , flat tori
- [RC ramified germs](#) Ramified germs of smooth and holomorphic functions
- [Rn open](#) Open subsets of \mathbb{R}^n
- [Rn open Riem](#) Open subsets of \mathbb{R}^n equipped with the flat metric
- [smooth quasi-analytic](#) Quasi-analytic smooth functions on \mathbb{R}
- [star shaped](#) Star-shaped subsets of \mathbb{R}^n
- [Vec](#) ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in \mathbb{R}^n
- [wave](#)

$$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2$$