

## Info

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## *parameterized* curves in $\mathbb{R}^n$

### Definition. Parameterized curves

Given a  $\mathcal{C}^k$  map on a open interval  $E \subseteq \mathbb{R}$

$$\gamma : E \rightarrow \mathbb{R}^n$$

this map  $\gamma$  is called a  $\mathcal{C}^k$ -**parameterized curve**.

A  $\mathcal{C}^\infty$ -parameterized curve is called a **smooth curve**.

A parameterized curve is **regular** if

$$\gamma'(t) \neq 0, \forall t \in E$$

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Current note has 6 direct children and 6 total descendants.

- [stamp](#) stamp
  - [Rf](#) subobjects of and functions on  $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$ 
    - [curves](#) Curves
      - [arc](#) Arc length
      - [congruence](#) Congruent curves
      - [curvature](#) Curvature of a curve
      - [reparameterization](#) Reparameterization of a parameterized curve
      - [tangent](#) Tangent of a curve
      - [unit speed](#) Unit speed parameterization of a curve

And it has 36 siblings.

- [stamp](#) stamp
  - [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 cocpct](#) 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

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