ⓘ Info

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Fourier transform of measurable subsets

Let

$$A \subseteq \mathbb{R}^d$$

be measurable. Then

$$\hat{1}_A(\xi) := \int_A \exp(-2\pi i \langle x, \xi \rangle)$$

is the Fourier transform *of A*.

[1]

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 $_\Gamma\backslash^{\mathbb{R}^n}, {}_\Gamma\backslash^{\mathbb{C}^n}$
    - Fourier
      - Fourier transform of measurable subsets

And it has 10 siblings.

- stem
  - subobjects of and functions on $\mathbb{R}^n, S^n, \mathbb{C}^n$ and its quotients $_\Gamma\backslash^{\mathbb{R}^n}, {}_\Gamma\backslash^{\mathbb{C}^n}$
    - Fourier
      - Fourier transform on $L^2(-A, A) \leq L^2(\mathbb{R})$
      - $\frown : L^2(0, \infty) \cong_{\mathsf{Hilb}} \mathscr{O}^2(H^2_{\mathbb{U}})$
      - Fourier transform on $\mathbb{R}^n$
      - Fourier transform on S^1, Fourier series on $[0, 1]$
      - Functions on S^1 with absolutely converging Fourier series, $\check{l}^1(S^1)$
      - Fourier transform of distributions on S^1
      - $\frown : L^1[0, 1] \to \mathcal{C}_0(\mathbb{Z}, \mathbb{C})$
      - $\frown : L^2[0, 1] \cong_{\mathsf{Hilb}} l^2(\mathbb{Z}, \mathbb{C})$
      - Fourier transform of measurable subsets
      - Unsharpness principles

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1. https://chessapig.github.io/files/presentations/brion_fourier.pdf ↩