Info

This note found here
as a part of a collection
is written (completely with human hands) by Rupadarshi Ray,
created on May 27, 2026 3:45:07 AM,
and was last modified on May 27, 2026 3:55:58 AM.

Functions with uniformly bounded mean oscillations on cubes

Definition. Functions with uniformly bounded mean oscillations on cubes

Let $f \in L^1_{\text{loc}}(\mathbb{R}^d)$ and

$$\|f\|_{\text{BMO}} := \sup \left\{ \frac{1}{m(R)} \int_R \left| f - \frac{1}{m(R)} \int_R f \right| \middle| R \text{ is a cube in } \mathbb{R}^d \right\}$$

and

$$\text{BMO} := \frac{\{f \in L^1_{\text{loc}}(\mathbb{R}^d) | \|f\|_{\text{BMO}} < \infty\}}{\{\text{functions that are constant aeon } \mathbb{R}^d\}}$$

Proposition:

$$L^\infty \to \text{BMO}$$

Current note has 0 direct children and 0 total descendants.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - Lmeas Lebesgue measurable subsets of and functions on $\mathbb{R}^n, T^n, S^n$
      - BMO Functions with uniformly bounded mean oscillations on cubes

And it has 15 siblings.

- stamp stamp
  - Rf subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
    - Lmeas Lebesgue measurable subsets of and functions on $\mathbb{R}^n, T^n, S^n$
      - BMO Functions with uniformly bounded mean oscillations on cubes
      - decom bd Chebyshev's inequality
      - decom CZ Calderon-Zygmund decomposition
      - density Lebesgue density of measurable sets
      - DMO Functions with uniformly bounded mean oscillations on dyadic cubes
      - End int Volterra operator $\int_{[0,-]} : L^1_{\mathrm{loc}}[0,1) \to \mathcal{C}[0,1)$
      - f Measurable functions on $\mathbb{R}^n$
      - f quant (ϵ, n)-measurable function
      - int Integrability and integral of measurable functions on $\mathbb{R}^n$
      - int HL Hardy-Littlewood maximal functions of $L^1_{\text{loc}}(\mathbb{R}^n)$
      - int mean Lebesgue averaging and differentiation
      - int monotone Integrals of a monotonically converging sequence of functions
      - int undergraph Lebesgue integral from measure of undergraph
      - Lorentz $L^{p,q}$
      - unit mass $\mathrm{E}([0,1]) = \mathrm{E}(0,1), \mathrm{E}([-\pi,\pi]) = \mathrm{E}(S^1)$