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An estimate of an optimal argument in the sharp multidimensional Jackson-Stechkin $L_2$-inequality. (English. Russian original) [Zbl 1344.42004]


Summary: An estimate of an optimal argument in the sharp Jackson-Stechkin inequality in the space $L_2(\mathbb{R}^n)$ is proved in the case of a generalized modulus of continuity; its special case is the classical modulus of continuity. Similar statements hold for the torus $\mathbb{T}^n$. The obtained results agree with Chernykh’s classical one-dimensional theorems and refine some results by S. N. Vasil’ev, A. I. Kozko, and A. V. Rozhdestvenskii.

MSC:

42A10 Trigonometric approximation
41A17 Inequalities in approximation (Bernstein, Jackson, Nikol’skii-type inequalities)
41A50 Best approximation, Chebyshev systems

Keywords:

best approximation; trigonometric polynomials; Jackson-Stechkin inequality; generalized modulus of continuity

Full Text: DOI

References:


[17] Chernykh, N. I. Best approximation of periodic functions by trigonometric polynomials in $L_2\{1\}\{\{2\}\}$, Math. Notes, 2,


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