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Discrete differential operators in multidimensional Haar wavelet spaces. (English)

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Authors' summary: We consider a class of discrete differential operators acting on multidimensional Haar wavelet basis with the aim of finding wavelet approximate solutions of partial differential problems. Although these operators depend on the interpolating method used for the Haar wavelets regularization and the scale dimension space, they can be easily used to define the space of approximate wavelet solutions.

MSC:

[39A12](#) Discrete version of topics in analysis

[35A35](#) Theoretical approximation in context of PDEs

[42C40](#) Nontrigonometric harmonic analysis involving wavelets and other special systems

Cited in 4 Documents

Keywords:

discrete differential operators; Haar wavelet basis; interpolating method; regularization

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