

DOI: 10.21538/0134-4889-2016-22-4-225-232

MSC: 42C40, 42A38

BIORTHOGONAL BASES OF SPACES OF N -SEPARATE MULTIREOLUTION ANALYSIS AND MULTIWAVELETS¹

E. A. Pleshcheva

We construct biorthogonal bases of spaces of n -separate multiresolution analysis and wavelets for n scaling functions. Fast algorithms are presented for finding the coefficients of expansion of functions in such bases.

Keywords: wavelet, mask, biorthogonal basis, scaling function, multiresolution analysis.

REFERENCES

1. Pleshcheva E.A. New generalization of orthogonal wavelet bases. *Proc. Steklov Inst. Math.*, 2011, vol. 273, suppl. 1, pp. 124–132.
2. Daubechies I. *Ten lectures on wavelets*. Philadelphia: SIAM, 1992, CBMS-NSF Regional Conf. Ser. Appl. Math., vol. 61, 350 p.
3. Novikov I.Ya., Protasov V.Yu., Skopina M.A. *Wavelet theory*. New York: AMS, 2011, Transl. Math. Monographs, vol. 239, 506 p.

E. A. Pleshcheva, Cand. Sci. (Phys.-Math.), Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russia,
e-mail: e-mail: eplescheva@gmail.com .

Cite this article as:

E. A. Pleshcheva, Biorthogonal bases of spaces of n -separate multiresolution analysis and multiwavelets, *Trudy Inst. Mat. Mekh. UrO RAN*, 2016, vol. 22, no. 4, pp. 225–232 .

¹Received August 15, 2016