Cohen, A.; **Daubechies, I.**

On the stability of arbitrary biorthogonal wavelet packets. (English) Zbl 0792.42020

SIAM J. Math. Anal. 24, No. 5, 1340-1354 (1993).

If ϕ and ψ generate an orthonormal multiresolution analysis and an orthonormal basis of $L^2 = L^2(-\infty, \infty)$, respectively, then various orthonormal bases of L^2 can be easily derived by considering the so-called wavelet packets corresponding to ϕ and ψ. In this paper, it is shown that if the same procedure is applied to biorthogonal scaling functions and wavelets, however, not all the resulting wavelet packets lead to Riesz bases of L^2.

Reviewer: C.K.Chui (College Station)

MSC:

42C40 Nontrigonometric harmonic analysis involving wavelets and other special systems

46E30 Spaces of measurable functions (L^p-spaces, Orlicz spaces, Köthe function spaces, Lorentz spaces, rearrangement invariant spaces, ideal spaces, etc.)

Keywords:

orthonormal multiresolution analysis; orthonormal bases; wavelet packets; biorthogonal scaling functions; Riesz bases

Full Text: DOI