THE \(n\)-DIMENSIONAL CONTINUOUS WAVELET TRANSFORMATION ON GELFAND AND SHILOV TYPE SPACES

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Abstract. In this paper the wavelet transformation on Gelfand and Shilov spaces of type \(W_M(\Box^n)\), \(W^\Omega(\Delta^n)\) and \(W^\Omega_M(\Delta^n)\) is studied. It is shown that \(W_\psi \phi : W_M(\Box^n) \to W_M(\Box^n \times \Box^n)\), \(W_\psi \phi : W^\Omega(\Delta^n) \to W^\Omega(\Delta^n \times \Box^n)\) and \(W_\psi \phi : W^\Omega_M(\Delta^n) \to W^\Omega_M(\Delta^n \times \Box^n)\) is linear and continuous where \(\Box^n\) and \(\Delta^n\) are \(n\)-dimensional real numbers and complex numbers. A boundedness result in a generalized Sobolev space is derived.

Full text

References


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