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BIHARMONIC WAVELETS AND THEIR APPLICATIONS

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We propose a solution method for the basic boundary value problem for biharmonic functions. In this method, a special system of functions is orthogonalized and Fourier series in this system are considered. It is proved that the constructed series converge inside the domain. Biharmonic wavelets are constructed based on the orthogonalized system. It is established that series of wavelets converge uniformly in the domain with boundary.

Keywords: biharmonic function, boundary value problem, wavelets.

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