

BOUNDARY BEHAVIOUR OF λ -POLYHARMONIC FUNCTIONS ON REGULAR TREES

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ABSTRACT. We study the boundary behaviour of λ -polyharmonic functions for the simple random walk operator on a regular tree, where λ is complex and $|\lambda| > \rho$, the ℓ^2 -spectral radius of the random walk. In particular, subject to normalisation by spherical, respectively polyspherical functions, Dirichlet and Riquier problems at infinity are solved and a non-tangential Fatou theorem is proved. (Similar results for the hyperbolic Laplacian on the unit disk are the object of current work.)

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