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Wenxian Shen and **Xiaoxia Xie*** (xzx0005@tigermail.auburn.edu), Department of Mathematics and Statistics, Auburn University, Auburn, AL 36830. *Approximations of Random Dispersal Operators/Equations by Nonlocal Dispersal Operators/Equations.*

This paper is concerned with the approximations of random dispersal operators/equations by nonlocal dispersal operators/equations. It first proves that the solutions of properly rescaled nonlocal dispersal initial-boundary value problems converge to the solutions of the corresponding random dispersal initial-boundary value problems. Next, it proves that the principal spectrum points of nonlocal dispersal operators with properly rescaled kernels converge to the principal eigenvalues of the corresponding random dispersal operators. Finally, it proves that the unique positive stationary solutions of nonlocal dispersal KPP equations with properly rescaled kernels converge to the unique positive stationary solutions of the corresponding random dispersal KPP equations. (Received September 11, 2013)