

HARNACK INEQUALITY AND ITS APPLICATION TO NONLOCAL EIGENVALUE PROBLEMS IN  
UNBOUNDED DOMAINS

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We prove the Harnack inequality for general nonlocal elliptic equations with zero order term. As an application we prove the existence of the principal eigenvalue in general domains. Furthermore we study the eigenvalue problem associated to the existence of self-similar solutions to the parabolic problem and provide estimates on the decay rate.