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John L Lewis and **Kaj Nyström*** (kaj.nystrom@math.umu.se), Department of Mathematics, Umeå University, 90187 Umeå, Sweden. *Boundary Behaviour for p Harmonic Functions in Lipschitz and Starlike Lipschitz Ring Domains.*

In this paper we prove new results for p harmonic functions, $p \neq 2$, $1 < p < \infty$, in Lipschitz and starlike Lipschitz ring domains. In particular we prove the boundary Harnack inequality, Theorem 1, for the ratio of two positive p harmonic functions vanishing on a portion of a Lipschitz domain, with constants only depending on p, n and the Lipschitz constant of the domain, and for p capacitary functions, in starlike Lipschitz ring domains, we prove an even stronger result, Theorem 2, showing that the ratio is Hölder continuous up to the boundary. We also prove, Theorem 3 and Theorem 4, for p capacitary functions in starlike Lipschitz ring domains, appropriate extensions, to $p \neq 2$, $1 < p < \infty$, of famous results of Dahlberg [D] and Jerison-Kenig [JK1] on the Poisson kernel associated to the Laplace operator (i.e. $p = 2$). (Received September 06, 2006)