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p-capacity in 3-manifold

As an inclusive $(1,3) \ni p$ - extension of Bray-Miao's Theorem 1 and Corollary 1 in Invent. Math. 172(2008)459-475 for $p = 2$, this talk presents a sharp isoperimetric inequality for the p-harmonic capacity of a surface in the complete, smooth, asymptotically flat 3-manifold with nonnegative scalar curvature, and then an optimal Riemannian Penrose type inequality linking the ADM/total mass and the p-harmonic capacity by means of the deficit of Willmore's energy.