Visa Latvala, Niko Marola, Mikko Pere: *Harnack's inequality for a nonlinear eigenvalue problem on metric spaces*; Helsinki University of Technology, Institute of Mathematics, Research Reports A484 (2005).

Abstract: *We prove Harnack's inequality for first eigenfunctions of the p-Laplacian in metric measure spaces. The proof is based on the famous Moser iteration method, which has the advantage that it only requires the $(1, p)$-Poincaré inequality. As a by-product we obtain the continuity and the fact that first eigenfunctions do not change sign in bounded domains.*

AMS subject classifications: 35P30, 35J20

Keywords: Sobolev space, Newtonian space, Caccioppoli estimate, Harnack's inequality, First eigenvalue, First eigenfunction, Rayleigh quotient, p-Dirichlet integral, Moser iteration

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