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**Ana Maria Matei\*** ([amatei@loyno.edu](mailto:amatei@loyno.edu)), Loyola University New Orleans, Department of Mathematics, 6363 St Charles Ave, New Orleans, LA 70118. *On the optimality of two isoperimetrical inequalities for the  $p$ -Laplacian.*

We study the relationship between the first eigenvalue of the  $p$ -Laplacian ( $p > 1$ ) and Cheeger's isoperimetrical constant for families of manifolds and graphs with the Cheeger constant converging to zero. (Received September 06, 2010)