

## Estimates from Below for the First Eigenvalue of the $p$ -Laplacian

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The first eigenvalue  $\lambda$  of  $p$ -Laplacian operator with zero Dirichlet boundary conditions in bounded domain  $\Omega \subset R^n$ ,  $n \geq 2$ ,  $p > 1$  is considered. A lower bound for  $\lambda$  is obtained by using Hardy inequality with double singular kernel. Comparison with analytical and numerical estimates from below in the ball for the first eigenvalue is shown.

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