1057-31-238   **Rodrigo Banuelos*** (`banuelos@math.purdue.edu`), Department of Mathematics, Purdue University, West Lafayette, IN 47906, **Iosif Polterovich** (`iossif@dms.umontreal.ca`), Département de mathématiques, Université de Montréal, Montreal, Canada, **Bartłomiej Siudeja** (`siudeja@illinois.edu`), Department of Mathematics, University of Illinois, Urbana-Champaign, IL 61801, and **Tadeusz Kulczycki** (`tkulczycki@impan.pan.wroc.pl`), Institute of Mathematics, Polish Academy of Sciences, Wrocław, Poland. *Eigenvalue inequalities for mixed Steklov problems.*

Let μ_n and λ_n be the eigenvalues of the mixed Steklov problem with Neumann and Dirichlet boundary conditions, respectively, in a domain of Euclidean space R^d, $d \geq 2$. Under certain assumptions on the domain it is proved that $\mu_{n+1} \leq \lambda_n$. For $n = 1$ this is a generalization of the classical Pólya inequality between the Neumann and Dirichlet eigenvalues for the Laplacian. (Received January 24, 2010)

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