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Erik Lundberg* (elundber@math.purdue.edu), 150 N. University Street, West Lafayette, IN 47904. *Self-commutators of Toeplitz operators and isoperimetric sandwiches.*

In, 1985, D. Khavinson obtained a lower bound for the norm of a Toeplitz operator acting on the Smirnov space of a domain. Combining this with Putnam's inequality, he observed that his results imply the classical isoperimetric inequality. We consider self-commutators of Toeplitz operators in the setting of the Bergman space and obtain a lower bound involving the torsional rigidity of the underlying domain. We conjectured an improved version of Putnam's inequality that was recently proved by J-F. Olsen and M. C. Reguera. Combined with our lower bound this implies the classical Saint-Venant isoperimetric inequality. This is joint work with Steve Bell and Tim Ferguson. (Received August 14, 2013)