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**Dennis Courtney** and **Donald Sarason\*** ([sarason@math.berkeley.edu](mailto:sarason@math.berkeley.edu)), Department of Mathematics, University of California, Berkeley, CA 94720-3840. *A mini-max problem for inducers of self-adjoint Toeplitz matrices.* Preliminary report.

An  $(N+1)$ -by- $(N+1)$  self-adjoint Toeplitz matrix determines an operator on the space of complex polynomials of degrees at most  $N$ . We regard that space in the usual way as a Hilbert space (the monomials of orders 0 to  $N$  form the standard orthonormal basis). The operator in question is induced, via multiplication followed by projection, by the real part of any Hardy-space function whose coefficients suitably match the matrix entries. The essential supremum norm of the inducer is at least as large as the norm of the operator. For a given operator of unit norm, there is an inducer of minimum essential supremum norm. We consider the problem of maximizing that minimum, for a given  $N$ , over all operators (of the type under discussion) of unit norm. In this talk, the origins of the problem will be explained, the extremal functions for the problem will be identified, the method of attack will be described, and the question of numerical values will be discussed. (Received April 01, 2010)