

# UNIVERSAL LOWER BOUNDS FOR DISCRETE POTENTIALS OF SPHERICAL CODES AND DESIGNS

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We obtain universal lower bounds for  $N$ -point polarization (Chebyshev) problems for spherical codes and designs of fixed dimension, strength, and cardinality. The universality means that the main parameters of the bounds are independent of the potentials. Our bounds are valid for a large class of potentials that includes absolutely monotone functions of inner products and are the best possible that can be obtained via linear programming methods for a lower bounding class of polynomial potentials.

*Joint work with Joint work with: P. Boyvalenkov (IMI, Bulgarian Academy of Sciences), P. Dragnev (Purdue Ft.-Wayne, USA), D. Hardin (Vanderbilt University, USA), M. Stoyanova (University of Sofia, Bulgaria).*