

USING SEMIDEFINITE PROGRAMMING IN APPROXIMATION THEORY

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This talk reports on some ongoing work that uncovers many semidefinite relaxations to classic Approximation Theory problems. These include best approximations in the max-norm by trigonometric polynomials, algebraic polynomials, rational functions, and splines. One may deal with unconstrained, one-sided, monotone, or simultaneous approximations alike. Solving the associated semidefinite programs numerically gives new insight on various results and conjectures.