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## A MATRIX ANALYSIS APPROACH TO REPRODUCING KERNELS

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We consider holomorphic reproducing kernels on  $C^n$ . We show that their characterization as Moore matrices yields, by positive-semidefiniteness of the involved matrices, an  $n$ -parameter family of differential inequalities of which the order 0 case is the familiar diagonal dominance case. Similar inequalities are obtained for sufficiently smooth kernels in  $R^n$ . These inequalities are obtained in a strictly algebraic-analytical fashion, that is, directly in  $C^n$  through matrix analysis; in the reproducing kernel Hilbert space they correspond to a form of the Cauchy-Schwarz inequality. As an application we mention that these inequalities are critical in studying positive integral equations on unbounded domains, implying that the corresponding integral operators are spectrally exceptionally well-behaved.

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