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*Kernels of Toeplitz operators and extremal functions*

A Toeplitz operator on a Hardy space is a truncated multiplication operator, which means that it multiplies elements of the Hardy space by a fixed essentially bounded function and projects the product back to the Hardy space (when possible). Toeplitz operators play an important role in different areas of mathematics, such as stochastic processes, polynomial approximation, and free interpolation etc. In addition to the spectral properties of the operator, the study of properties such as injectivity and left invertibility (hence surjectivity) is also of interest. It turns out that the extremal function associated with the kernel of a Toeplitz operator contains quite a bit of information about these properties. We will present a couple of results in this context; some of them going back to Hitt, Hayashi and Sarason, but will also discuss some newer ones.