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Berezin transform of some operators on weighted Hardy spaces

The Berezin transform is a function associated to an operator acting on a Reproducing Kernel Hilbert Space (RKHS) of functions. The properties of the operator affect the properties of the Berezin transform, and sometimes this also works in the other direction. We will illustrate some of this behaviour for a class of general Toeplitz operators acting on a range of RKHS called weighted Hardy spaces, which include the classical Bergman, Hardy and Dirichlet spaces. As it turns out, the Berezin transform approach works better for some of these spaces than for the others.