Analytic perturbations of unilateral shift

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June 2022

The main aim of perturbation theory is to study (and also compare the properties of) S:= F + T, where F is a finite rank (or compact, Hilbert–Schmidt, Schatten-von Neumann class, etc) operator and T is a tractable operator (like unitary, normal, isometry, self-adjoint, etc) on some Hilbert space. I will discuss joint work with Susmita Das in which we investigate some basic properties of shifts (S) that are finite rank (F) perturbations of the unilateral shift (T) on the classical Hardy space. Here shift (S) refers to the multiplication operator by the coordinate function z on some analytic reproducing kernel Hilbert space defined on the open unit disc in the complex plane. Also, we will recall and introduce all the background material needed for this talk.