Analysis Seminar

On Invertibility and Fredholm Properties of a Class of Operators Acting on the Hardy Space of Analytic Functions of the Unit Disc and the Unit Polydisc

By

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Abstract: In this talk we deal with a class of operators which are written as a linear combination of Toeplitz operators and Fourier multipliers acting on the Hardy space of the unit disc. We prove that such operators are invertible if and only if they are Fredholm with Fredholm index zero. We apply this result to obtain Fredholm criteria of similar operators acting on Hardy space of the unit polydisc. Our results are then applied to calculate spectra of certain composition operators on the Hardy space of the unit disc and essential spectra of a class of composition operators acting on Hardy space of the unit polydisc. This talk is based on the following papers which are joint work with B. B. Koca of Istanbul University.
References.
1. An invertibility criterion in a C*-algebra of acting on the Hardy space with applications to composition operators, U. GÜL, B.B. KOCA, Mediterranean Journal of Mathematics volume 15, Article number: 220 (2018)
2. Fredholm criteria in a C*-algebra acting on the Hardy space of the bidisc with applications to composition operators, U. GÜL, B.B. KOCA, JMAA, volume 477, issue 1, p. 163-173 (2019).

Date: Wednesday, December 15, 2021
Time: 18:00-19:00, GMT+3.
Place: ZOOM

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