ESSENTIAL SPECTRA OF QUASI–PARABOLIC COMPOSITION OPERATORS ON HARDY SPACES OF THE POLY–DISC

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Abstract. In this paper we study the essential spectra of a class of composition operators on the Hilbert-Hardy space of the bi-disc which is called "quasi-parabolic" and whose one variable analogue was studied in [2]. As in [2], quasi-parabolic composition operators on the Hilbert-Hardy space of the bi-disc are written as a linear combination of Toeplitz operators and Fourier multipliers. The C*-algebra generated by Toeplitz operators and Fourier multipliers on the Hilbert-Hardy space of the bi-disc is written as the tensor product of the similar C*-algebra in one variable with itself. As a result we find a nontrivial set consisting of spiral curves lying inside the essential spectra of quasi-parabolic composition operators.

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