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DISTANCE ESTIMATES, NORM OF HANKEL OPERATORS AND RELATED QUESTIONS

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Abstract. We consider Berezin symbols and Hankel operators on the Hardy space $H^2(\mathbb{D})$ over the unit disc $\mathbb{D} = \{z \in \mathbb{C} : |z| < 1\}$ and give their some applications. Namely, we estimate in terms of Hankel operators and Berezin symbols the distances from a given operator to the algebra of all analytic Toeplitz operators and to the set of all Toeplitz operators on $H^2(\mathbb{D})$. We use Hankel operator also to prove some lower estimate for the so-called Berezin number of bounded linear operators on H^2. Some other related questions are also discussed.

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