

A note on the Toeplitz operators on weighted mixed norm spaces

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Abstract. Toeplitz operators T_μ , where μ is a finite measure, on weighted mixed norm spaces $B_\alpha^{p,q}(\Omega)$ on a smoothly bounded domain $\Omega \subset \mathbb{R}^n$ are studied. It is proved that T_μ is bounded if and only if the Berezin transform of μ is bounded on Ω if and only if μ is a Carleson measure on Ω for the space $B_\alpha^{p,q}(\Omega)$. Analogously, T_μ is compact if and only if the Berezin transform of μ vanishes on $\partial\Omega$ if and only if μ is a vanishing Carleson measure on Ω for the space $B_\alpha^{p,q}(\Omega)$. The proofs rely on the following: boundedness of Bergman projection, description of the dual space $B_\alpha^{p,q}(\Omega)^* = B_{1-\alpha}^{p',q}(\Omega)$ and density of functions smooth up to the boundary in $B_\alpha^{p,q}(\Omega)$

The results on Toeplitz operators and these related results are joint work with Ivana Savković (Faculty of Mechanical Engineering, University of Banja Luka).