

## FINITE RANK TOEPLITZ PRODUCTS WITH HARMONIC SYMBOLS

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ABSTRACT. On the Bergman space of the unit ball of  $\mathbb{C}^n$ , we study the finite rank problem for Toeplitz products with harmonic symbols. We first solve the problem with two factors in case symbols have local continuous extension property up to the boundary. Also, in case symbols have additional Lipschitz continuity up to (some part of) the boundary, we solve the problem for multiple products with number of factors depending on the dimension  $n$ . An analogous theorem on the polydisk is also obtained.

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