ON THE COMMUTATIVITY OF TOEPLITZ OPERATORS WITH HARMONIC SYMBOLS

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Abstract. In this paper we prove that if the polar decomposition of a symbol \( f \) is truncated above, i.e., \( f(re^{i\theta}) = \sum_{k=-\infty}^{N} e^{ik\theta} f_k(r) \) where the \( f_k \)’s are radial functions, and if the associated Toeplitz operator \( T_f \) commutes with \( T_{z^2 + \overline{z}^2} \), then \( T_f = Q(T_{z^2 + \overline{z}^2}) \) where \( Q \) is a polynomial of degree at most 1.


Keywords and phrases: Toeplitz operator, quasihomogeneous symbol, Mellin transform.

REFERENCES