ON HOLOMORPHIC MAPPINGS ATTAINING THEIR NORMS

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ABSTRACT. Given a complex Banach space X and $\mathcal{A}_u(X)$ the Banach algebra of all the uniformly continuous functions on the closed unit ball of X which are holomorphic on the open unit ball, we study when the set of norm attaining elements is dense in $\mathcal{A}_u(X)$. We prove that if $X = d_*(w, 1)$, a predual of a Lorentz sequence space, and P and Q are non-zero continuous polynomials of degree less than or equal to 2 on X the product $Q^n P^m$ attains its norm if and only if P and Q also attain their norm. Joint work with María Acosta, Jerónimo Alaminos and Manuel Maestre.

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