MEAN ERGODIC COMPOSITION OPERATORS IN SPACES OF HOMOGENEOUS POLYNOMIALS

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ABSTRACT. We study some dynamical properties of composition operators defined on the space $\mathcal{P}(^m X)$ of m-homogeneous polynomials on a Banach space X when $\mathcal{P}(^m X)$ is endowed with two different topologies: the one of uniform convergence on compact sets and the one defined by the usual norm. The situation is quite different for both topologies: while in the case of uniform convergence on compact sets every power bounded composition operator is uniformly mean ergodic, for the topology of the norm there is no relation between the latter properties. Several examples are given.

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