

INTERSECTION OF NONEXPANSIVE MAPPINGS WITH RESPECT TO A FINITE NUMBER OF RENORMINGS

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Abstract. Given a Banach space $(X, \|\cdot\|)$ and a subset C of X , we consider the family of bounded Lipschitzian mappings $BLip(C, X)$. This family is endowed with a norm and a topology that does not depend on renormings. With this topology we prove that it is not enough to consider the family of mappings that are nonexpansive with respect to finitely many renormings, to get the family of mappings that are nonexpansive w.r.t. all renormings.

Key Words and Phrases: Fixed point, renorming, nonexpansive mapping, affine mapping, meager set, Baire's category theorem.

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