

Property T and Amenable Transformation Group C^* -algebras

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Abstract. It is well known that a discrete group which is both amenable and has Kazhdan's Property T must be finite. In this note we generalize the above statement to the case of transformation groups. We show that if G is a discrete amenable group acting on a compact Hausdorff space X , then the transformation group C^* -algebra $C^*(X, G)$ has Property T if and only if both X and G are finite. Our approach does not rely on the use of tracial states on $C^*(X, G)$.