

1063-03-86

Slawomir Solecki* (ssolecki@math.uiuc.edu), Department of Mathematics, 1409 W. Green St., University of Illinois, Urbana, IL 61801. *Groups generated by generic measure preserving transformations.*

Consider the Polish group of all measure preserving transformations of Lebesgue measure with the canonical weak topology. Using descriptive set theory, we show that for a generic transformation T in this group, the closed group generated by T is isomorphic to a subgroup of $L_0(\text{measure}, S^1)$ that is the image of a closed linear subspace of $L_0(\text{measure}, \mathbb{R})$ via the exponential map. This sharpens and generalizes older results of de la Rue, Sam Lazaro, and others. Several structural properties of the closed group generated by a generic T , established by Ageev and others, follow relatively simply from the above result. (Received August 06, 2010)