

Title: Amenability, proximality and higher order syndeticity

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Abstract: I will present new descriptions of some universal flows associated to a discrete group, obtained using what we view as a kind of “topological Furstenberg correspondence.” The descriptions are algebraic and relatively concrete, involving subsets of the group satisfying a higher order notion of syndeticity. We utilize them to establish new necessary and sufficient conditions for strong amenability and amenability. Furthermore, utilizing similar techniques, we obtain a characterization of “dense orbit sets,” answering a question of Glasner, Tsankov, Weiss and Zucker. Throughout the talk, I will discuss connections to operator algebras. This is joint work with Sven Raum and Guy Salomon.