

Bernoulli Disjointness

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Generalizing a result of Furstenberg, we show that for every infinite discrete group G , the Bernoulli flow 2^G is disjoint from every minimal G -flow. From this, we deduce that the algebra generated by the minimal functions $\mathfrak{A}(G)$ is a proper subalgebra of $\ell^\infty(G)$ and that the enveloping semigroup of the universal minimal flow $M(G)$ is a proper quotient of the universal enveloping semigroup βG . When G is countable, we also prove that for any metrizable, minimal G -flow, there exists a free, minimal flow disjoint from it and that there exist continuum many mutually disjoint minimal, free, metrizable G -flows. Finally, improving a result of Frisch, Tamuz, and Vahidi Ferdowsi and answering a question of theirs, we show that if G is a countable icc group, then it admits a free, minimal, proximal flow. This is a joint work with Todor Tsankov, Benjamin Weiss and Andrew Zucker.