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Title: *Self-similarities of ergodic flows*

Abstract: Given an ergodic flow $T = (T_t)_{t \in \mathbb{R}}$, let $I(T)$ be the set of reals $s \neq 0$ for which the flows $(T_{st})_{t \in \mathbb{R}}$ and $T$ are isomorphic. Then $I(T)$ is a Borel multiplicative subgroup of $\mathbb{R}^*$. It carries a natural Polish group topology which is stronger than the topology induced from $\mathbb{R}$. There exists a mixing flow $T$ such that $I(T)$ is an uncountable meager subset of $\mathbb{R}^*$. For a generic flow $T$, the transformations $T_{t_1}$ and $T_{t_2}$ are spectrally disjoint whenever $|t_1| \neq |t_2|$. A generic transformation (i) embeds into a flow $T$ with $I(T) = \{1\}$ and (ii) does not embed into a flow with $I(T) \neq \{1\}$.

For each countable multiplicative subgroup $S \subset \mathbb{R}^*$, there is a Poisson suspension flow $T$ with simple spectrum such that $I(T) = S$. If $S$ is without rational relations then there is a rank-one weakly mixing rigid flow $T$ with $I(T) = S$. 