IS ANY KIND OF MIXING POSSIBLE IN ToP $\mathbb{N}$-ACTIONS?

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Definition. A topological dynamical system (X, T), where X a compact space without isolated points and T a continuous map from X to itself, is called ToP if every point $x \in X$ is either (topologically) transitive or periodic and both types are present.

Note that transitivity of (X, T) (i.e., there exists a point with dense orbit) has different meaning depending on whether we consider the $\mathbb{N}$-action (positive iterates of a continuous map T) or $\mathbb{Z}$-action (both positive and negative iterates of a homeomorphism T). Thus the notion ToP has different meanings in these cases, too. In a forthcoming paper we have constructed ToP systems with positive entropy and for $\mathbb{Z}$-action we know how to make one which is topologically weakly mixing. For $\mathbb{N}$ -action our examples are not totally transitive!

Question: *Do there exist totally transitive (topologically weakly mixing or mixing) ToP $\mathbb{N}$-actions?*

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Typeset by $\mathcal{AMS}$-TEX