Forni, Giovanni

Construction of invariant measures supported within the gaps of Aubry-Mather sets. (English summary)


Summary: “The paper represents a contribution to the variational approach to the understanding of the dynamics of exact area-preserving monotone twist maps of the annulus, currently known as Aubry-Mather theory. A method introduced by Mather in 1985 to construct invariant measures of Denjoy type is extended to produce almost-periodic measures, having arbitrary rationally independent frequencies, and positive entropy measures, supported in the gaps of Aubry-Mather sets which are not contained in invariant curves. This extension is based on an averaged version of the Percival Lagrangian and on a new minimization procedure, which also gives a simplified proof of the basic existence theorem for the Aubry-Mather sets.”

{For the collection containing this paper see MR1479894}