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Abstracts of Short Communications and Posters

Section:

8. Analysis

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Wandering sets for a class of Borel isomorphisms of $[0,1)$**(joint work with Dr. Edward Azoff, UGA, Athens, USA)**

A wandering set for an isomorphism φ is a set containing precisely one element from each orbit of φ. We study the existence of Borel wandering sets for piecewise linear isomorphisms. Such sets need not exist even when the parameters involved are rational, but they do exist if in addition all the slopes are powers of 2. For φ having at most one discontinuity, the existence of a Borel wandering set is equivalent to rationality of the Poincaré rotation number. We compute the rotation numbers for a special class of such functions.
Having a Lebesgue measurable wandering set for the map induced by two given wavelet sets allows one to construct a continuous path of wavelet sets connecting them.