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SYMBOLIC DYNAMICS AND OMEGA-LIMIT SETS OF PIECEWISE MONOTONE MAPS

ANDY BARWELL

An omega-limit set L is a closed, invariant, non-empty set which is known to have the property of internal chain transitivity, which says that for any pair of points x and y in L and real number r¿0 there is an r-pseudo-orbit in L between x and y. We call a piecewise monotone map locally pre-critical if for any open interval U there is a positive integer k for which $f^k(U)$ contains a critical point.

In this talk we demonstrate that for a locally pre-critical piecewise monotone map of the interval, internal chain transitivity characterizes those omega-limit sets which do not contain the image of any critical point. We also demonstrate how symbolic dynamics can be used to identify all points in any omega-limit set of such a map.

University of Birmingham, UK
E-mail address: barwella@for.mat.bham.ac.uk