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A Splitting Theorem for Transitive Maps

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In this paper we prove a splitting theorem for continuous transitive maps on locally connected compact metric spaces which generalizes the results of Barge and Martin [4] for transitive maps on the interval and of Blokh [7] for transitive graph maps. As a consequence, lower bounds for the topological entropy of transitive graph maps in terms of the cardinality of their splittings are obtained. Also we show that for every connected graph which is not a tree, the infimum of the topological entropy of the transitive maps having a periodic point is zero. Since the topological entropy of transitive maps without periodic points is zero [7] and positive lower bounds of the entropy were given for the transitive maps on trees [2], this paper completes the problem of obtaining lower bounds of the topological entropy for transitive maps of any connected graph. © 1999 Academic Press

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