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Characterizations of spreading models of l^1

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Abstract: Rosenthal in [11] proved that if (f_k) is a uniformly bounded sequence of real-valued functions which has no pointwise converging subsequence then (f_k) has a subsequence which is equivalent to the unit basis of l^1 in the supremum norm. Kechris and Louveau in [6] classified the pointwise convergent sequences of continuous real-valued functions, which are defined on a compact metric space, by the aid of a countable ordinal index "γ". In this paper we prove some local analogues of the above Rosenthal 's theorem (spreading models of l^1) for a uniformly bounded and pointwise convergent sequence (f_k) of continuous real-valued functions on a compact metric space for which there exists a countable ordinal ξ such that $\gamma((f_{n_k})) > \omega^\xi$ for every strictly increasing sequence (n_k) of natural numbers. Also we obtain a characterization of some subclasses of Baire-1 functions by the aid of spreading models of l^1.

Keywords: uniformly bounded sequences of continuous real-valued functions, convergence index, spreading models of l^1, Baire-1 functions
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