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Andrzej A Szymanski* (andrzej.szymanski@sru.edu), Department of Mathematics, Slippery Rock University, Slippery Rock, PA. *On κ -Baire and κ -Shanin spaces*. Preliminary report.

Let κ be an infinite cardinal. A space X is κ -Baire if no non-empty open set in X can be the union of κ nowhere dense subsets of X . A space X is κ -Shanin if any point-open family in X is locally κ -at each point of a dense subset of X . By a theorem of Fletcher-Lindgren-McCoy, κ -Baire \iff κ -Shanin. There exist examples of κ -Shanin spaces that are not κ -Baire. We describe broad classes of spaces for which to be κ -Baire implies to be κ -Shanin. We show that the existence of a normal ultrafilter on an uncountable cardinal κ implies the consistency of the existence of a space X that is κ -Baire but not κ -Shanin. (Received September 27, 2006)