ON THE QUASICELLULARITY OF A SPACE

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We define the quasicellularity $qc(X)$ of a space X with the property $wL(X) \leq qc(X) \leq c(X)$ for any space X. It is shown that $c(X) = qc(X)dot(X)$, decomposing $c(X)$ into two components, where $dot(X)$ is defined in [1]. Relationships between $qc(X)$ and other cardinal invariants are investigated. In particular we prove that $qc(X) = wL(X)$ for any extremally disconnected space. Cardinality bounds involving $qc(X)$ are given, including $|X| \leq \pi_\chi(X)^{qc(X)dot(X)\psi_c(X)}$ for a Hausdorff space X.

References

[1] I. Gotchev, M.G. Tkachenko, V.V. Tkachuk, *Regular G_δ-diagonals and some upper bounds for cardinality of topological spaces*, cta Math. Hungar. 149 (2) (2016), 324-337.

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