collectionwise normal

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A Hausdorff topological space X is called *collectionwise normal* if any discrete collection of sets $\{U_i\}$ in X can be covered by a pairwise-disjoint collection of open sets $\{V_j\}$ such that each V_j covers just one U_i. This is equivalent to requiring the same property for any discrete collection of closed sets.

A Hausdorff topological space X is called *countably collectionwise normal* if any countable discrete collection of sets $\{U_i\}$ in X can be covered by a pairwise-disjoint collection of open sets $\{V_j\}$ such that each V_j covers just one U_i. This is equivalent to requiring the same property for any countable discrete collection of closed sets.

Any metrizable space is collectionwise normal.

References

[1] Steen, Lynn Arthur and Seebach, J. Arthur, *Counterexamples in Topology*, Dover Books, 1995.