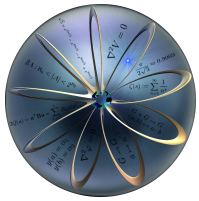

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paracompact topological space

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Defines	paracompact
Defines	paracompactness

A topological space X is said to be *paracompact* if every open cover of X has a locally finite open refinement.

In more detail, if $(U_i)_{i\in I}$ is any family of open subsets of X such that

$$\cup_{i\in I} U_i = X \ ,$$

then there exists another family $(V_i)_{i\in I}$ of open sets such that

$$\cup_{i\in I} V_i = X$$

$$V_i \subset U_i \text{ for all } i \in I$$

and any specific $x \in X$ is in V_i for only finitely many i.

Some properties:

- Any metric or metrizable space is paracompact (A. H. Stone).
- Given an open cover of a paracompact space X, there exists a (continuous) partition of unity on X subordinate to that cover.
- A paracompact , Hausdorff space is regular.
- A compact or pseudometric space is paracompact.