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Covering dimension of topological spaces

Definition. Covering dimension of topological spaces

A topological space X is of **finite covering dimension** if there is some integer $m \in \mathbb{N}$ such that every open cover $\mathcal{U}$ of X has a *refinement* of order at most $m + 1$. The **covering dimension** $\dim X$ is defined to be the smallest value of m for which this holds.

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- [structures based on sets](#)
 - [Topological spaces](#)
 - [Covering dimension of topological spaces](#)

And it has 29 siblings.

- [structures based on sets](#)
 - [Topological spaces](#)
 - [Group action on topological spaces](#)
 - [Discrete subgroup acting on coset space](#)
 - [Basis and subbasis for a topology](#)
 - [Principal \$G\$ -bundles over topological spaces](#)

$$G \curvearrowright P \rightarrow X$$
 - [Vector bundles over topological spaces](#)
 - [Closure of a subset of topological space](#)
 - [Locally compact and 2-countable Hausdorff topological spaces are paracompact with countable refinement](#)
 - [Covering dimension of topological spaces](#)
 - $\text{EndTop}(X, Y)$
 - [Eilenberg–Steenrod functors](#)

$$(H_n : \text{Top} \times \text{Top} \rightarrow \text{Ab}, \partial_n)$$
 - [Local fields](#)
 - [Local fields of characteristic 0](#)
 - [Topological groups](#)
 - [Continuous group action on a topological space](#)
 - [Intersection of open, dense subsets of a topological space](#)
 - [Local topological spaces](#)
 - [Covering space of a topological space](#)
 - [Borel measures on a topological space](#)
 - [Convergence for nets in a topological space](#)
 - [Loops and a open cover of a topological space](#)
 - [Paths in a topological space](#)
 - [Product of topological spaces](#)
 - [Ringed topological spaces](#)
 - [Sheaf on open sets of a topological space](#)
 - [Closed subsets of a topological space](#)
 - [Discrete subsets of topological spaces](#)
 - [Types of topological spaces](#)
 - [Locally compact Hausdorff spaces](#)
 - [Topological vector spaces over \$\mathbb{R}\$ or \$\mathbb{C}\$](#)