



Math for the people, by the people.

topological sum

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Entry type	Definition
Classification	msc 54A99
Synonym	coproduct in the category of topological spaces
Synonym	topological disjoint union

Given two topological spaces X and Y , their *topological sum* is defined to be the set $X \coprod Y$ (see the entry *disjoint union*) equipped with the finest topology such that the inclusion maps from X and Y into $X \coprod Y$ are continuous. A basis for this topology consists of the union of the set of open subsets of X and the set of open subsets of Y .