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isotopy

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Let M and N be manifolds and $I = [0, 1]$ the closed unit interval. A smooth map $h: M \times I \rightarrow N$ is called an *isotopy* if the restriction map $h_t := h(-, t): M \rightarrow N$ is an embedding for all $t \in I$.

In particular, a diffeotopy is an isotopy.

Remark. Given an isotopy $h: M \times I \rightarrow N$, there exists a diffeotopy $g: N \times I \rightarrow N$ such that $h_t = g_t \circ h_0$.