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Parametric general position properties and embedding n-dimensional maps into trivial bundles

Abstract. A topological space X is said to have the m-DD^n-property if any two maps $f, g : I^m \times I^n \to X$ can be uniformly approximated by maps $f', g' : I^m \times I^n \to X$ such that $f'(\{z\} \times I^n) \cap g'(\{z\} \times I^n) = \emptyset$.

We shall discuss the m-DD^n-property and will show that a completely metrizable LC^{m+n}-space X has that property if and only if for each perfect n-dimensional map $p : K \to M$ onto a metrizable m-dimensional space M the function space $C(K, X)$ contains a dense G_δ-set of maps injective on fibers of p.

Some arithmetic formulas for calculating the m-DD^n-property in products will be presented as well.