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Configruration spaces and mapping spaces

Abstract: We consider configuration spaces $C(M, M_0; X)$ of distinct points in an m-manifold M modulo a closed submanufold M_0 with labels in a space X. There is a map $\gamma : C(M, M_0; X) \to \mathrm{Sect}(W - M_0, W - M; S^m X)$ to the space of relative section of the bundle with fibre $S^m X$ assiciated to the tangent bundle of an m-manifold W containing M. An older result says this γ is a homotopy equivalence if $(M, M_0$ or if X is connected. This result includes mapping spaces like $\Omega^m S^m X$ or the space of maps from a complex $K \subset \mathbb{R}^m$ to $S^m X$. We also discuss stable splittings and some generalizations.