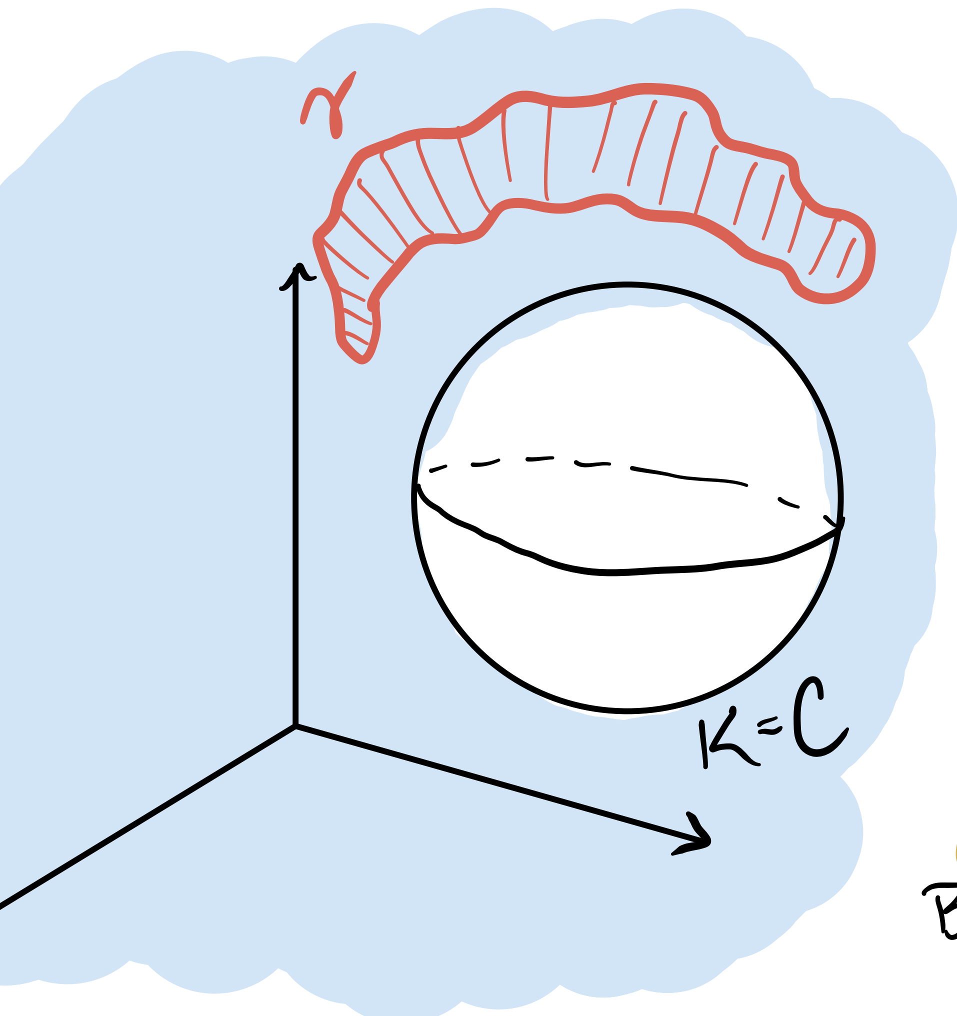

A space $\tilde{X}$ is **n-connected at infinity** if $\forall K \subset \tilde{X}$ compact, $\exists C \subset K$ compact such that every map $S^n \longrightarrow \tilde{X} - K$ is nullhomotopic in $\tilde{X} - C$. The figure illustrates the general fact that $\mathbb{R}^n$ is $(n-2)$-connected at infinity.

If $G = \pi_1(X)$, where X is, say, a closed manifold with universal cover $\tilde{X} = \mathbb{R}^n$, then we say that G is $(n-2)$-connected at infinity, and in our case the (co-)homology of G satisfies Poincaré duality.

As it happens, G having cohomological dimension n and being $(n-2)$-connected at infinity implies that G satisfies a generalization of Poincaré duality due to Bieri and Eckmann.

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