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The transfer map and degree of maps of free G -manifolds

Abstract. The transfer map was constructed by Dan Gottlieb and used by many authors. Recently Yasuhiro Hara applied it to study the degree of maps of free G -manifolds. I will take a slightly different approach and prove stronger results. If G is connected and the manifolds are orientable, I will show that the degree of an equivariant map satisfies a formula involving data given by the classifying maps of the orbit spaces M/G and N/G . In particular, if the generator of the top dimensional cohomology of M/G is in the image of the classifying map, then the degree is one.