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The equivariant K*-group of the Hirzebruch-Mayer SO(n)-manifold

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0. Introduction

We have calculated the equivariant K^*-group of the Hirzebruch-Mayer $O(n)$-manifold $W^{2n-1}(d)$ as follows.

Theorem. [5, § 8] *For $n \geqq 2$, the orbit space is a 2-disk the orbit type of whose interior is $(O(n-2))$ and the boundary $(O(n-1))$, and*

$$K^0_{O(n)}(W^{2n-1}(d)) \cong R(O(n-1))$$

and

$$K^1_{O(n)}(W^{2n-1}(d)) \cong \mathrm{Ker}\ \rho'_{n-1}.$$

Here $\rho'_{n-1}: R(O(n-1)) \to R(O(n-2))$ *is the canonical surjection.*

In the case above the equivariant K^*-group is independent of d. Moreover, we have proved that the equivariant K^*-group of the regular $O(n)$-manifold X depends only on the orbit type decomposition of the orbit space, if $\dim X/O(n) \leqq 2$.

On the other hand, if we restrict the $O(n)$-action on the subgroup $SO(n)$, we shall get

Theorem. *For $n \geqq 3$, the orbit space is homeomorphic to a 2-disk the orbit type of whose interior is $(SO(n-2))$ and the boundary $(SO(n-1))$, and the equivariant K^*-group is calculated*

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