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Eric Hogle* (ehogle@uoregon.edu), Fenton Hall, University of Oregon, Eugene, OR 97401. *The $RO(C_2)$ -graded Bredon cohomology of equivariant Grassmannians.*

The Grassmannian manifold of k -planes in \mathbb{R}^n has a group action if \mathbb{R}^n is taken to be a real representation of the group. When the group is C_2 , the Schubert cell construction of the Grassmannian generalizes to an equivariant representation-cell structure. However, this generalization is not unique; an identification of representation with \mathbb{R}^n must be chosen.

I am interested in computing the $RO(C_2)$ -graded Bredon cohomology of these spaces. Although a theorem of Kronholm dictates that this must be free, determining the degrees of the generators is nontrivial. The ambiguity introduced by the choice mentioned above turns out to be an asset for this task. Using a computation by Dan Dugger of the cohomology of an infinite equivariant Grassmannian, and some theorems about equivariant flag manifolds, I will present a way to succeed in finding the cohomologies of several infinite families of finite-dimensional equivariant Grassmannians. (Received August 30, 2017)