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EQUIVARIANT MOORE SPACES AND THE DADE GROUP

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Abstract

Let G be a finite p -group and k be a field of characteristic p . A topological space X is called an n -Moore space if its reduced homology is nonzero only in dimension n . We call a G -CW-complex X an \underline{n} -Moore G -space over k if for every subgroup H of G , the fixed point set X^H is an $\underline{n}(H)$ -Moore space with coefficients in k , where $\underline{n}(H)$ is a function of H . We show that if X is a finite \underline{n} -Moore G -space, then the reduced homology module of X is an endo-permutation kG -module generated by relative syzygies. A kG -module M is an endo-permutation module if $\text{End}_k(M) = M \otimes_k M^*$ is a permutation kG -module. We consider the Grothendieck group of finite Moore G -spaces $\mathcal{M}(G)$, with addition given by the join operation, and relate this group to the Dade group generated by relative syzygies.

In the talk I will give all the necessary definitions on Moore G -spaces and Dade group, and explain some of the earlier work on these topics. I will also provide many examples to motivate the statements of the theorems.

Date : Tuesday, July 4, 2017

Time: 11:00

Place: IMBM Seminar Room, Boğaziçi University South Campus