ALGEBRA SEMINAR

Endotrivial complexes

By

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Abstract: Let G be a finite group, p a prime, and k a field of characteristic p. In this talk, we will introduce the notion of an endotrivial complex of p-permutation kG-modules, and the corresponding group of endotrivial complexes. Such complexes induce splendid Rickard autoequivalences of the group algebra kG. These complexes can be determined up to homotopy equivalence by integral invariants arising from the Brauer construction and a 1-dimensional representation, which proves that the group of endotrivial complexes is finitely generated. We will discuss some of the results of our investigations, including explicitly determining the group of endotrivial complexes for certain groups, investigating the image of the group in the trivial source ring, and restriction to Sylow p-subgroups. If time permits, we will briefly discuss ongoing work which defines the notion of a relative endotrivial complex, which extends Lassueur's doctoral thesis.

Date: Monday, December 4, 2023
Time: 10:30
Place: ZOOM
To request the event link, please send a message to d.yilmaz@bilkent.edu.tr