

Algebraic Topology Seminar

Descent and nilpotence in equivariant stable homotopy theory

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Abstract: Let G be a finite group. Then it is a classical result of Quillen that the group cohomology of G can be recovered, up to nilpotence, from the cohomology of its elementary abelian subgroups. Using ideas from descent theory, we introduce a class of genuinely equivariant spectra that can be recovered in a strong homotopical sense from their restrictions to a given family of subgroups. We obtain large classes of examples of such equivariant spectra and show in particular show that complex-oriented theories have this property with respect to the family of abelian subgroups. As a result, we obtain (by decategorifying) analogs of the F-isomorphism theorem as well as analogs of Artin and Brauer induction for complex-oriented theories. In addition, as a major application of this technology, we obtain an L_n -local Galois descent theorem in algebraic K-theory. This is joint work with Niko Naumann and Justin Noel.

Monday, April 20 at 3:00 PM in SEO 1227