

Topology Seminar

Gabe Angelini-Knoll

of Freie Universität Berlin will be speaking on

Morava K-theory of algebraic K-theory and topological periodic cyclic homology

on March 9 at 3:15 in
MIT Room 2-131

The chromatic red-shift program of Ausoni-Rognes suggests that algebraic K-theory shifts chromatic height by one. In my talk, I will describe a computational approach to this program where chromatic height is measured by vanishing of Morava K-theory. In particular, we see that the vanishing range of Morava K-theory of topological periodic cyclic homology of a certain family of Thom spectra $y(n)$ increases by one. We also prove that algebraic K-theory preserves vanishing of Morava K-theory for $y(n)$, a result recently proven in parallel by Land-Meier-Tamme by entirely different methods. Our theorem relies on a technical result about when commuting Morava K-theory with a sequential limit is possible, which I will discuss. As second application of this technical result, we prove a higher chromatic height analogue of Mitchell's theorem for truncated Brown-Peterson spectra associated to a prime p and an integer n , which remains conditional for large primes p and integers n . This is based on joint work with J.D. Quigley and joint work with A. Salch.

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