Vanishing Results in Chromatic Homotopy Theory

Online seminar

Speaker: Guchuan Li
University of Michigan

Time：**Wed, Jan. 19th, 10:00-11:00**

Tencent Meeting ID：**137 427 612**

Abstract: A piece of stable homotopy groups of sphere, known as the Image of J , is completely understood. Chromatic homotopy theory provides framework to construct analogue pieces at all heights to cover all elements in stable homotopy groups of sphere, including the Image of J part as height 1 case. Each piece can be computed via homotopy fixed points spectral sequences. Though the complete computation is out of reach, we prove that at height h (with 2-adic value v not 1), prime 2, the spectral sequence collapses after page $2^{v+h+1}-2^{v+1}+1$ and admits a horizontal vanishing line at $2^{v+h}-2^v+1$. Our proof uses new equivariant techniques developed by Hill-Hopkins-Ravenel in their solution to the Kevaire invariant one problem. This is joint work with Zhipeng