



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 155 ,Ziskind Building  
on Monday, Feb 18, 2019  
at 11:15

Part 1 at 11:15-12:30 Part 2 at 13:00-14:00

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WIS

Ambidexterity in Chromatic Homotopy Theory

Abstract:

Poincare duality provides an isomorphism between the homology and cohomology of a compact manifold, up to a shift. For  $\pi$ -finite spaces, i.e. spaces with finitely many non-zero homotopy groups, all of which are finite, there is a similar duality only for  $\mathbb{Q}$ -coefficients, but no such duality exists with  $\mathbb{F}_p$  coefficients. However, as shown by Michael Hopkins and Jacob Lurie, there is a duality between the homology and cohomology of  $\pi$ -finite spaces with coefficients in some extra-ordinary cohomology theories called Morava K-theories. This property of Morava K-theory is called ambidexterity. I will explain what is ambidexterity, some of its consequences and our contribution to the subject.

This is a joint work with Lior Yanovski and Tomer Schlank.