THE GALOIS ACTION ON SYMPLECTIC K-THEORY

TONY FENG

The algebraic K-theory of the integers has fascinating connections with number theory; for example, the values of the Riemann zeta function at negative integers turn out to be related to the sizes of K-groups (by work of Rost-Voevodsky and Mazur-Wiles). Such connections come from unexpected structure on the classifying spaces of arithmetic groups, and can be explained in terms of the philosophy of the so-called Langlands program. Motivated by this picture, Akshay Venkatesh and Soren Galatius and I considered a symplectic variant of algebraic K-theory of the integers, constructed a natural Galois action on it, and computed that Galois action. I will explain this story with a K-theory audience in mind.