



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room A ,Feinberg Graduate School Building
on Wednesday, Jan 15, 2020
at 11:15

NOTE UNUSUAL PLACE: Feinberg Graduate School, ROOM A

Pavel Etingof
MIT

The Frobenius functor for symmetric tensor categories in positive characteristic.

Abstract:

An important role in modular representation theory is played by the Frobenius twist functor, twisting the k -linear structure of a representation by the Frobenius automorphism $F(a)=a^p$ of the (algebraically closed) ground field k of characteristic p . I will define an analog of this functor for any symmetric tensor category of characteristic p . One of the main new features is that unlike the classical Frobenius twist functor, this functor need not be left or right exact. I will give examples when it is not and describe a replacement of the exactness property. I will also describe applications of this notion to formulating and proving analogs of Deligne's theorem in positive characteristic. This is joint work with V. Ostrik.