

Thesis Defense

Topological K-theory and invertibility

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Abstract: Topological K-theory of dg-categories is an invariant of \mathbb{C} -linear dg-categories taking values in the ∞ -category of KU-modules. I will describe a relative version of this construction. Using this, I give a characterization, in terms of twisted K-theory, of the topological K-theory of the dg-category $\text{Perf}(X, A)$ of modules over an Azumaya algebra A over X . I then deduce a certain decomposition, for X a finite CW-complex equipped with a bundle of projective spaces $\pi : P \rightarrow X$, of $KU(P)$ in terms of the twisted topological K-theory of X ; this is a topological analogue of a result of Quillen's on the algebraic K-theory of Severi-Brauer schemes.

Thursday, April 19 at 4:30 PM in SEO 712