Noncommutative tensor-triangular geometry. Preliminary report.

We describe a general theory of prime, completely prime, and semiprime ideals of non-braided tensor-triangulated categories. These notions are a noncommutative analogue to Paul Balmer’s prime spectra of symmetric tensor-triangulated categories. Noncommutative tensor-triangulated categories appear naturally as stable module categories for non-quasitriangular Hopf algebras and as derived categories of bimodules of noncommutative algebras. In stable module categories of Hopf algebras, the support theory of the category, as described by Benson-Iyengar-Krause is linked to the Balmer spectrum, which is shown to be the final support datum. We will describe how this connection can be used to compute Balmer spectra in some of the examples listed above. (Received September 02, 2019)