Motivic Homotopy Theory of Algebraic Stacks

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Abstract

In this talk, we extend the stable motivic homotopy theory from schemes to a large class of algebraic stacks using the language of ∞-categories. This includes quasi-separated algebraic spaces, local quotient stacks (for example moduli of vector bundles). We also extend the six functor formalism and prove statements like localization and purity.
We start the talk by motivating the need of such specific class of algebraic stacks which shall lead up to the construction of the stable homotopy functor and the four functors $\mathsf{f}^*, \mathsf{f}_*, - \otimes -$ and $\mathrm{Hom}(-,-)$. We then briefly explain the motivation of "Enhanced operation map" due to Liu and Zheng which helps us to construct the exceptional functors. The talk ends by stating the other properties of these six functors like localization and purity.