The $G_m$-stabilization conservativity conjecture

Classically, the functor from pointed spaces to the derived -category of abelian groups, sending a space to its singular chain complex, is conservative on simply connected spaces. This fact is an important tool in the unstable homotopy theory, since it reduces homotopy-theoretic questions to questions in homological algebra, which are in general more accessible. In this talk, we discuss an analogous conjecture in motivic settings and our partial progress towards proving it. This is joint work with Tom Bachmann.