



Mathematics > K-Theory and Homology

Algebraic Kasparov K-theory. II

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(Submitted on 1 Jun 2012)

A kind of motivic stable homotopy theory of algebras is developed. Explicit fibrant replacements for the S^1 -spectrum and (S^1, \mathbb{G}) -bispectrum of an algebra are constructed. As an application, unstable, Morita stable and stable universal bivariant theories are recovered. These are shown to be embedded by means of contravariant equivalences as full triangulated subcategories of compact generators of some compactly generated triangulated categories. Another application is to introduce and study the symmetric monoidal compactly generated triangulated category of K-motives. It is established that the triangulated category kk of Cortinas-Thom can be identified with K-motives of algebras. It is proved that the triangulated category of K-motives is a localization of the triangulated category of (S^1, \mathbb{G}) -bispectra. Also, explicit fibrant (S^1, \mathbb{G}) -bispectra representing stable algebraic Kasparov K-theory and algebraic homotopy K-theory are constructed.

Subjects: **K-Theory and Homology (math.KT)**; Algebraic Topology (math.AT); Operator Algebras (math.OA)

Cite as: **arXiv:1206.0178 [math.KT]**
(or **arXiv:1206.0178v1 [math.KT]** for this version)

Submission history

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