Beilinson Conjectures for finite-dimensional algebras

Dmitry Kaledin

Beilinson Conjectures predict algebraic K-theory and special values of L-functions for smooth projective algebraic varieties over $\mathbb{Q}$. I am going to present something like a generalization of these conjectures to non-commutative algebraic varieties — but only in the "baby version" of finite-dimensional associative algebras. This baby version can actually be proved, by reducing to semisimple algebras and then applying Borel Theorem about cohomology of arithmetic groups. However, having a direct proof would be conceptually interesting and possibly useful for a grown-up version of the story. I am going to discuss what version of Borel Theorem this would require, and how it relates to curvature estimates on homogeneous spaces.