1041-16-30 **Martin Lorenz*** (lorenz@temple.edu), Dept. of Mathematics, Temple University, 1805 N. Broad St., Philadelphia, PA 19122. *Group actions and rational ideals.*

We develop the theory of rational ideals for arbitrary associative algebras R without assuming the standard finiteness conditions, noetherianness or the Goldie property. Our main result concerns rational actions of an affine algebraic group G on R. Working over an algebraically closed base field, we prove an existence and uniqueness result for generic rational ideals: for every G-rational ideal I of R, the closed subset of the rational spectrum $\operatorname{Rat} R$ that is defined by I is the closure of a unique G-orbit in $\operatorname{Rat} R$. Under additional Goldie hypotheses, this was established earlier by Mœglin and Rentschler (in characteristic 0) and by Vonessen (in arbitrary characteristic), answering a question of Dixmier. (Received July 16, 2008)