1003-55-1275   **Julie Bergner*** (jbergner@nd.edu). *Rigidification of algebras over multi-sorted algebraic theories.*

Strict and homotopy simplicial algebras over an algebraic theory correspond, respectively, to strict and up-to-homotopy algebraic structures on spaces. A result of Badzioch says that any such homotopy algebra can be replaced more or less canonically by a weakly equivalent strict algebra. We use the generalized notion of a multi-sorted algebraic theory and show that Badzioch's theorem still holds for algebras over one. We then use this generalization to relate simplicial categories and Segal categories. (Received October 04, 2004)