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Applications of Algebraic Set Theory

Algebraic set theory considers the category-theoretic structure implicit in the notion of smallness arising from the set/class size distinction of first-order set theory. Hitherto, it has mainly aroused foundational interest as a reorganization of models of (many variants of) set theory, focusing on their algebraic structure. However, by providing a natural environment for carrying out internal arguments involving large structures and size distinctions, algebraic set theory should also be a theory with applications. In this talk, I shall attempt to explore some of the possible directions such applications might take.