

1154-03-878

Victoria Gitman* (vgitman@gmail.com), CUNY Graduate Center, Mathematics Department,
365 5th Avenue, New York, NY 10016. *Toy multiverses of set theory.*

Modern set theoretic research has produced a myriad of set-theoretic universes with fundamentally different properties and structures. Multiversists hold the philosophical position that none of these universes is the true universe of set theory - they all have equal ontological status and populate the set-theoretic multiverse. Hamkins, one of the main proponents of this view, formulated his position via the heuristic Hamkins Multiverse Axioms, which include such radical relativity assertions as that any universe is ill-founded from the perspective of another universe in the multiverse. With Hamkins, we showed that the collection of all countable computably saturated models of ZFC satisfies his axioms. Countable computably saturated models form a unique natural class with a number of desirable model theoretic properties such as existence of truth predicates and automorphisms. Indeed, any collection of models satisfying the Hamkins Multiverse Axioms must be contained within this class. In a joint work with Toby Meadows, Michał Godziszewski, and Kameryn Williams, we explore which weaker versions of the multiverse axioms have ‘toy multiverses’ that are not made up entirely of computably saturated models. (Received September 11, 2019)