

Finitely supported mathematics (FSM) is related to permutation models of set theory and comprises the study of structures defined using an infinite set A of urelements (“atoms”). As a rough approximation, the core idea is that one has access to finite information about A , and FSM hence studies what can be said of mathematical structures defined using atoms. Specifically, each structure is endowed with a natural action of the group of finite permutations of A , and FSM studies such structures in which elements are determined by a finite *support* $S \subset A$ (that is, structures being invariant by all permutations that fix S).

In the present paper, the authors collect several results on FSM, continuing their work in their previous monograph [MR3497557]. Most of these results go in the direction of showing that A behaves like an amorphous set, and some choice-like principles are shown to fail for other constructs based on A : the set of finite subsets of A , the “FSM powerset” of A , etcetera; but notably, the Pigeonhole Principle and Ramsey’s Theorem hold for them. The cardinality properties of these constructs is also studied; although it should be noted that the authors use a Fregean concept of cardinality—this reviewer isn’t sure of how concepts of FSM are applied to class-sized objects, and how cardinal arithmetic is defined in this setting.