1158-03-220   **Dario Verta***, Phillips Hall, Room 739, Washington, DC 20052. *Computability theoretic complexity of properties of structures.*

We investigate computability-theoretic complexity of determining whether an algebraic structure has a certain property, relative to the algorithmic description that presents a structure. We study computable structures, but also, taking examples from algebraic categories, consider structures admitting a recursive presentation in terms of generators and relators. We establish that certain properties (such as Markov properties) are hard in a given class of structures. We can apply general results to various specific structures including various magmas such as semigroups, racks and quandles. (Received March 02, 2020)