1090-03-128 **Wesley Calvert*** (wcalvert@siu.edu), Department of Mathematics, Mail Code 4408, 1245 Lincoln Drive, Southern Illinois University, CARBONDALE, IL 62901, **Valentina Harizanov**, George Washington University, and **Alexandra Shlapentokh**, East Carolina University.
Algorithmic unsolvability in geometry.

We show that a well-known classification from computable model theory places some interesting classes of geometric objects on the side of admitting high algorithmic diversity.

Two sets are Turing equivalent if there is an algorithm to decide membership in each, given information on membership in the other. We can think of an algebraic structure (e.g. a ring) as a set by considering the quadruples $(a, b, a + b, ab)$. It is easy to see that isomorphism does not preserve Turing equivalence.

For many classes of structures, it is known that the set of Turing degrees of isomorphic copies of a single structure may have any least element we wish, or no least element at all. For other classes of structures, the situation is much more restrictive. In the present work, we show that the former is true for certain classes of ringed spaces, including unions of certain families of curves. (Received February 25, 2013)