1148-03-142 **Douglas Cenzer*** (cenzer@ufl.edu), Department of Mathematics, University of Florida, Gainesville, FL 32611, and **Wesley Calvert** and **Valentina Harizanov**. *Generically computable equivalence structures and isomorphisms.*

We define notions of generically and coarsely computable relations, structures, functions and isomorphisms. For example, a binary relation R on ω is generically computable if there is a partial computable function $\phi : \omega \times \omega \to \{0, 1\}$ such that $\phi = \chi_R$ on the domain of ϕ and there is a c.e. set of asymptotic density one such that $A \times A$ is a subset of the domain of ϕ; the set A and the relation R are said to be *faithful* if, whenever $a \in A$ and aRb, then $b \in A$. It is shown that every equivalence structure has a generically computable copy. However, E has a faithful generically computable copy if and only if it has an infinite faithful substructure with a computable copy. We define a notion of generically computable isomorphisms and apply this in particular to the classic structure consisting of infinitely many classes of size 1 and of size 2. We show that if the classes of size 2 have asymptotic density one in two structures A and B, then A and B are generically computably isomorphic. We also consider notions of coarsely computable structures and functions as well as weak variations of our notions. (Received January 30, 2019)