

1033-03-173

Sara Quinn*, Department of Mathematics, 255 Hurley Building, University of Notre Dame, Notre Dame, IN 46556, and **V. Harizanov, J.F. Knight, K. Lange, C. Maher** and **C. McCoy**. *Index sets of fields*. Preliminary report.

For a computable structure \mathcal{A} , an *index* is a number a such that the characteristic function of the atomic diagram of \mathcal{A} is given by the a^{th} partial computable function. The *index set* for \mathcal{A} is the set of all indices for computable isomorphic copies of \mathcal{A} . The complexity of the index set tells how complicated it is to say whether or not some computable structure is an isomorphic copy of the given structure. In the paper “Index sets of computable structures,” joint with W. Calvert, V. Harizanov, and J. F. Knight, appearing in *Algebra and Logic*, and in new joint work with V. Harizanov, J. F. Knight, K. Lange, C. Maher, and C. McCoy, the complexity of the index set for certain classes of computable structures was calculated. In this talk, I will first give all of the necessary computability theory background, and then describe some of the results on index set complexity, focusing on particular classes of fields. (Received September 10, 2007)