

1021-03-196

Kenneth Allen Harris* (kaharris@cs.uchicago.edu), Department of Computer Science, 1100 East 58th Street, Chicago, IL 60637. *η -Representation of Sets and Degrees.*

A set $A = \{a_0 < a_1 < a_2 < \dots\}$ has a *strong η -representation* if there is a computable linear order whose order type is

$$\eta + \mathbf{a}_0 + \eta + \mathbf{a}_1 + \eta + \mathbf{a}_2 + \dots$$

where η is the order type of the rationals and \mathbf{a}_i consists of a_i elements linearly ordered. A has an *η -representation* when the finite blocks \mathbf{a}_i may occur in any order and with repetitions. A degree will be said to have a (strong) η -representation if some set of that degree has such a representation. Manuel Lerman proved many results on the degrees of sets and degrees with (strong) η -representations and ζ -representations (where ζ , the order type of the integers, replaces η .) We continue his investigation of these degrees, and provide a characterization of the sets with η -representations by means of the ranges of θ' -computable limitwise monotonic functions. (Received September 05, 2006)