

1042-03-146

Cameron E Freer* (freer@math.mit.edu), Massachusetts Institute of Technology, Dept. of Mathematics, 77 Massachusetts Ave., 2-346, Cambridge, MA 02139. *Models with High Scott Rank.*

Results of Scott and Nadel provide upper bounds on the Scott rank of structures; in particular, hyperarithmetical structures must have Scott rank at most $\omega_1^{CK} + 1$. It is natural to look for structures of the second-highest possible Scott rank, ω_1^{CK} . Makkai provided a hyperarithmetical example which is \aleph_0 -categorical, and there is a recent non- \aleph_0 -categorical example due to Millar and Sacks. We present new analogous results for larger admissible ordinals. These constructions use Barwise compactness and finite injury priority arguments from infinitary recursion theory. (Received August 17, 2008)