

Meeting: 1001, Evanston, Illinois, SS 8A, Special Session on Computability Theory and Applications

1001-03-205 **Kenneth A. Harris*** (kaharris@cs.uchicago.edu), Department of Computer Science, University of Chicago, 1100 East 58th Street, Chicago, IL 60637, **Denis R. Hirschfeldt** (drh@math.uchicago.edu), Department of Mathematics, University of Chicago, 5734 S. University Ave., Chicago, IL 60637, and **Robert I. Soare** (soare@cs.uchicago.edu), Department of Mathematics, University of Chicago, 5734 S. University Ave., Chicago, IL 60637. *Degrees of Saturated Models*. Preliminary report.

Let T be a complete decidable theory with all types computable. Morley/Millar found a sufficient condition for T to possess a decidable saturated model, and Millar constructed an example of such a theory which possesses no decidable saturated model. We show that Millar's example can be extended to other degrees as well, and investigate which degrees are degrees of saturated models for any such theory T . Along the way we have discovered an unexpected new property equivalent to lowness which arises from one of these constructions. (Received August 26, 2004)