Meeting: 1003, Atlanta, Georgia, SS 6A, AMS-ASL Special Session on Reverse Mathematics, I

1003-03-1106 **Natasha L. Dobrinen*** (dobrinen@logic.univie.ac.at), Waehringer Strasse 25, 1040 Wien, Austria, and **Stephen G. Simpson** (simpson@math.psu.edu), 218 McAllister Building, State College, PA 16802. *Almost everywhere domination and the reverse mathematics of measure theory.*

A Turing degree **a** is *uniformly almost everywhere dominating* if there is a function f of Turing degree $\leq$ **a** such that for almost all $X \in 2^\omega$ (with respect to the fair-coin measure), every function recursive in X is eventually dominated by f. Likewise, there is a non-uniform version. We present connections between uniformly (and non-uniformly) almost everywhere dominating Turing degrees and reverse mathematics regarding the regularity of Lebesgue measure. (Received October 04, 2004)