1086-03-884 **Jesse W Johnson*** (jjohns27@nd.edu), University of Notre Dame, 255 Hurley Hall, Notre Dame, IN 46556. *Computable categoricity for quasiminimal-excellent classes.*

We define a type of classes important in modern model theory - the quasiminimal-excellent classes. Some examples of which are the algebraically-closed fields of characteristic 0, any strongly minimal theory (in a countable language with algebraic closure), and the theory of one equivalence relation whose blocks each have size $\aleph_0$. We will concentrate on Zilber's "Pseudo-exponential fields" and his "covers of the multiplicative group of $\mathbb{C}$." It is a fact of Zilber that any quasiminimal-excellent theory is definable in $L_{\omega_1,\omega}(Q)$ and is categorical in all uncountable powers. We define a notion of computable structure theory in the uncountable setting to analyze the complexity of these isomorphisms. We show that for the pseudo-exponential fields, the isomorphism is Δ^0_2-categorical, but not computably categorical. We also show that the multiplicative covers are relatively computably categorical. We generalize this idea to all quasiminimal-excellent classes and show that a quasiminimal-excellent class is computably categorical if and only if it is definable in $L_{\omega_1,\omega}$. (Received September 14, 2012)