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William Chan* (wcchan@caltech.edu). *The countable admissible ordinal equivalence relation.*

F_{ω_1} denotes the equivalence relation on ${}^\omega 2$ defined by $x F_{\omega_1} y$ if and only if $\omega_1^x = \omega_1^y$. Marker showed it is not an orbit equivalence relation of a continuous action of a Polish group on ${}^\omega 2$. Becker showed it is not even the orbit equivalence relation of a Borel action of a Polish group. On the other hand, Montalban has shown that it is Borel reducible to an isomorphism relation of countable structures.

This talk will discuss some additional invariant descriptive set theoretic properties of F_{ω_1} : First, we show that F_{ω_1} can only be classified by countable structures of high Scott rank. An almost Borel reduction between E and F is a Borel function that may possibly fail to be a reduction on countably many E -classes. Zapletal has shown that there is an almost Borel reduction between E_{ω_1} and F_{ω_1} if there is a measurable cardinal. We show this fails in L and set-generic extensions of L . Sy-David Friedman asked whether F_{ω_1} is Borel bireducible to an isomorphism relation of a counterexample to Vaught's conjecture. We show that there is no Borel reduction of such an isomorphism relation to F_{ω_1} in L and set-generic extensions of L . (Received February 11, 2016)