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Daniel J Hathaway* (daniel.hathaway@du.edu). *Disjoint Infinity-Borel Functions.*

It is well known that sets of reals that have logically simple definitions satisfy desirable regularity properties, such as Lebesgue measurability, etc. We define a family F of continuum many Borel functions from \mathbb{R} to \mathbb{R} , and call a function g from \mathbb{R} to \mathbb{R} “nice” iff it is disjoint from only countably many of the functions in F . We first show that ZFC proves every Borel function is nice. We then show that that statement that every Δ_2^1 function is nice is equivalent to ω_1 being inaccessible in $L[r]$ for every real number r . Next, we show that AD^+ implies every g is nice. Finally, although a well-ordering of \mathbb{R} implies some function is not nice, we show that it is consistent with ZF that every function is nice and there is a non-principal ultrafilter on ω . (Received September 20, 2017)