1112-03-621 **Gregory Igusa*** (`gigusa@nd.edu`), **Julia Knight** and **Noah Schweber**. *Computing with the reals as a structure.*

In recent work, Noah Schweber defines a reducibility notion for structures A and B, potentially uncountable. The idea of the reducibility is that $A \leq_w^* B$ if, after a forcing collapse that causes A and B to become countable, every copy of B computes a copy of A. The reducibility is natural in that it does not depend on the specific forcing that is used, and that it coincides with Muchnik reducibility on countable structures.

One advantage of using this reducibility is that it allows us to specify the exact structures and signatures that we wish to work with. This talk will be primarily focused on structures that are referred to as "the reals." We will consider the computability theorist's reals, Cantor space and Baire space, and also consider the traditional reals, $R = (\mathbb{R}, +, \cdot, <)$, as well as several expansions and reducts of R. Somewhat surprisingly, in this reducibility, Cantor space is an outlier. It is strictly weaker than the other structures that we mention, all of which are equivalent.

Of additional interest is the fact that the study of this reducibility is not "isolated": it uses and produces new results in classical computability theory and effective structure theory that make no mention of $\leq_w^*$. (Received August 11, 2015)