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Weak equivalences between categories of models of type theory. Preliminary report.

Kapulkin and Lumsdaine have outlined a specific program by which to precisely state and prove the conjecture that intensional type theory is the internal language of higher categories. We build upon their progress on this program by establishing notions of weak equivalence in various categories of models of type theory, and proving that the comparison functors between these categories of models are Dwyer-Kan equivalences. We show that (the categories of) contextual categories, categories with attributes, comprehension categories, and type-theoretic fibration categories are all equivalent in this sense, assuming the existence of Id , Σ and Π types in each of these contexts. (Received August 17, 2017)