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A characterization of univalent fibrations

Voevodsky introduced an axiom in type theory that he calls univalence, which says roughly that homotopy equivalence and equality agree. Univalence is a property of a type family or a fibration, so a natural question is which type families / fibrations have this property. I will review what the axiom says both in the concrete world of topology and in the type theoretic setting, and then give a complete characterization of univalent type families / fibrations in terms of the topological concept of classifying space. This concrete description of univalence may help to demystify the concept, and may provide an alternate way of constructing univalent models of type theory.