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n-fold groupoids and n-types

Most homotopy invariants of topological spaces are filtered by dimension, so it is useful to have finite dimensional approximations to homotopy theories. We describe an algebraic model for the latter, which we call n -track categories. An appropriate algebraic model of n -types is developed for this purpose, with a class of n -fold groupoids which we call n -typical. This model leads to an explicit connection between homotopy types and iterated loop spaces and exhibit other useful properties. This is joint work with David Blanc.