

Stacks and homotopy theory

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Stacks are described as presheaves of groupoids G such that the classifying object BG satisfies descent for some Grothendieck topology. The set of simplicial presheaf homotopy classes $[*,BG]$ is identified with equivalence classes of acyclic homotopy colimits fibred over BG , thus generalizing the classical relation between torsors and non-abelian cohomology. Group actions give rise to quotient stacks, which appear as parameter spaces in an extension of the Suslin-Voevodsky cycle transfer to a definition of a transfer for finite surjective morphisms of integral schemes for ordinary and generalized cohomology theories in the étale and qfh topologies.