

Séminaire d'algèbre, topologie et géométrie
Jeudi 6 juin à 11h
Salle I

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Bousfield localization and commutative monoids

We give conditions on a monoidal model category M and on a set of maps S so that the Bousfield localization of M with respect to S preserves strict commutative monoids. This problem was motivated by an example due to Mike Hill which demonstrates that for the model category of equivariant spectra, even very nice localizations can fail to preserve strict commutative monoids. A recent theorem of Hill and Hopkins gives conditions on the localization to prohibit this behavior. When we specialize our general machinery to the model category of equivariant spectra we recover this theorem.

En route to solving the localization problem we will introduce the Σ_n -equivariant monoid axiom, which guarantees us that commutative monoids inherit a model structure. This axiom has a nice generalization which gives model structures and semi-model structures on algebras over an operad for various classes of operads. If there is time we will discuss this and say a word about how it interacts with Bousfield localization.