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Pointed homotopy of 2-crossed module maps and groupoid structure

We address the homotopy theory of 2-crossed modules of commutative algebras, which are equivalent to simplicial commutative algebras with Moore complex of length two. In particular, we construct a homotopy relation between 2-crossed module maps, and prove that it yields an equivalence relation in very unrestricted cases, strictly containing the case when the domain 2-crossed module is cofibrant, defining, furthermore, a groupoid with objects the 2-crossed module maps between two fixed 2-crossed modules, the morphisms being their homotopies.

References:

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