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Title: Transferring A -infinity structures along quasi-isomorphisms

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It has been long understood how to transfer A -infinity algebra structures along a homotopy equivalence of complexes. I will talk about a recent result showing A -infinity algebra structures may be transferred along (semi-)projective resolutions of complexes.

This gives a new result when the ground ring is not a field, because a (semi-)projective resolution is very rarely a homotopy equivalence. A -infinity morphisms, modules, and morphisms of modules can also be transferred, and if the complex in question is homologically bounded below, the transferred structures are all unique up to appropriate homotopy. This work is motivated by the study of free resolutions in homological commutative algebra, but the techniques apply in much wider generality. The main technique of proof is obstruction theory.