\documentclass[final,times]{elsarticle}

\begin{document}

\title{Title}

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Homotopy Algebras and their Applications in Topology and Algebra

\maketitle

To construct effective modern algebraic models now are used so called strong homotopy algebras where the classical defining identities like  [associativity, commutativity, Jakobi, Leibniz, …](https://ncatlab.org/nlab/show/associative%2Balgebra)  hold only up to coherent homotopes.

We are going to present how the certain structures on the bar (cobar) construction generate the notions of homotopy algebras A(∞), C(∞), B(∞), hGa. We present also some applications of these structure: The A(∞) algebra structure on cohomology algebra determines chomologies of loop space, the C(∞) algebra structure on rational cohomology algebra determines rational homotopy type, and the hGa structure on Hochchschild cohomologies determines various types of deformations.

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