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SULLIVAN MINIMAL MODELS OF OPERAD ALGEBRAS

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Abstract: We prove the existence of Sullivan minimal models of operad algebras for a quite wide family of operads in the category of complexes of vector spaces over a field of characteristic zero. Our construction is an adaptation of Sullivan's original *step by step* construction to the setting of operad algebras. The family of operads that we consider includes all operads concentrated in degree 0 as well as their minimal models. In particular, this gives Sullivan minimal models for algebras over $\mathcal{C}om$, $\mathcal{A}ss$, and $\mathcal{L}ie$, as well as over their minimal models $\mathcal{C}om_\infty$, $\mathcal{A}ss_\infty$, and $\mathcal{L}ie_\infty$. Other interesting operads, such as the operad $\mathcal{G}er$ encoding Gerstenhaber algebras, also fit in our study.

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