

# Correlation functions from homotopy algebras and the applications

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Homotopy algebras have been contributed to describe string field theory effectively. Recently, it has been recognized that these algebras can also be used to express quantum field theory, and its formulas are believed to be universal. In the recent research, it is presented that correlation functions of scalar field theories can be written in terms of homotopy algebras. In this talk, we present that the same formula can be used to describe correlation functions for both scalar fields and Dirac fields based on the work arXiv:2305.11634 with Yuji Okawa and arXiv:2305.13103. We also present some applications of our formulas.

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