XIII Mexican School of Particles and Fields



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The Feynman propagator within Phi⁴ Theory: a diagrammatic approach to the perturbation expansion of the two-point correlation function.

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Abstract content

Summary

In this poster we present a pedagogical construction of the two-point correlation function within Phi⁴ Theory as a structure based on the Feynman propagator. Throughout the analysis there are different concepts that play an important role such as time-ordering, normal-ordering and the identification of field contractions as Feynman propagators in different space-time regions. Also, there is a special appearance by Wick\'s theorem which becomes essential to sieve the terms obtained in the perturbation expansion. Finally, using the exponentiation of the disconnected diagrams, we arrive at an elegant and simple expression for the two-point and higher correlation functions.

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