

Progress on the Direct Computation Method

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We report our progress on the development of the Direct Computation Method (DCM), which is a fully numerical method for the computation of Feynman diagrams. Based on a combination of a numerical integration tool and a numerical extrapolation technique, all steps in the computation are carried out in a fully numerical way. The combined method is applicable to one-, two- and multi-loop diagrams with arbitrary masses including complex masses.

In this talk we show numerical results of a scalar one-loop pentagon and hexagon without any analytical treatment, neither reducing to a sum of box diagrams nor sector decomposition. Further we discuss the possibility of handling ultraviolet divergence using DCM.

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