

The toolbox of modern multi-loop computations: novel analytic and semi-analytic techniques

Monday, 5 September 2011 11:50 (40 minutes)

After a short introduction, sketching the structure of a typical calculation of higher-order quantum corrections, I will discuss a few examples illustrating ideas that were instrumental in obtaining some recent novel results. Attention will be given to the tools facilitating those techniques and the technical challenges. In particular, the talk will cover the progress in sector decomposition method, gluing relations, and dimensional recurrence relations. Finally, I will mention some very promising theoretical developments in understanding the mathematical structure of Feynman integrals that are yet to yield new results.

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