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Fun with higher-loop Feynman diagrams

Tuesday 19 January 2016 14:00 (25 minutes)

In high-energy physics experiments performed at current colliders such as the LHC, the flood of precision data requires matching theoretical efforts, in order extract the underlying event's structure.

To this end, in this talk I will showcase a few techniques and results related to investigations of the structure of higher-loop Feynman integrals which provide one of the basic building blocks of high-precision perturbative calculations within elementary particle physics. I will discuss new results on the current (five-)loop frontier, pointing out some interesting links to dierent areas of mathematics such as graph theory and number theory.

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