Parametric solution to IBP relations

Wednesday 27 April 2022 12:00 (30 minutes)

Using methods from algebraic geometry such as Gr\"obner bases, we derive operator solutions to IBP relations that retain the functional dependence on the propagator powers a_i. The reduction to master integrals is achieved by applying the operators to the integrals $I(a_i)$. The solution at hand makes a case-by-case bottom-up solution of the system of IBP equations obsolete. In the talk we present the algorithms, give examples and point out interesting future directions.

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