Contribution ID: **27** Type: **not specified**

Parametric annihilators for integral reduction & differential equations

Wednesday 12 November 2025 16:10 (30 minutes)

We elaborate on the method of parametric annihilators for deriving relations among integrals. Annihilators are differential operators that annihilate multi-valued integration kernels appearing in suitable integral representations of special functions and Feynman integrals. We describe a method for computing parametric annihilators based on efficient linear solvers and show how to use them to derive relations between a wide class of special functions. These include hypergeometric functions, Feynman integrals relevant to high-energy physics and duals of Feynman integrals. We finally present the public Mathematica package CALICO for computing parametric annihilators and its usage in several examples.

Presenter: FONTANA, Gaia

Session Classification: Scattering Amplitudes in Particle Physics