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Canonical Differential Equations and Twisted Cohomology

Thursday 4 September 2025 14:00 (30 minutes)

Finding the rotation to the canonical form for Feynman integrals associated with non-trivial geometries typically requires the introduction of not only periods of the geometry, but also (iterated) integrals thereof. In this talk I will describe how the twisted cohomology intersection matrix can „detect"the canonical form and how this can be used to constrain these integrals of periods. In particular this allows one to evaluate many (linear combinations of) these integrals in terms of periods and algebraic functions, which greatly reduces the complexity of the resulting canonical differential equations.

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