

Institut Henri Poincaré
11 rue Pierre et Marie Curie, 75231 Paris cedex 05
String Theory in Greater Paris

Rencontres Théoriciennes
“Supergravité, théorie des cordes et théorie M”

Jeudi 15 Fevrier 2018, 10:00

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Improving Integrands and Integrals for Amplitudes

There have been enormous advances in both our ability to represent scattering amplitudes at the integrand-level (for an increasingly wide variety of quantum field theories), and also in our integration technology (and our understanding of the functions that result). In this talk, I review both sides of these recent developments. At the integrand-level, I describe the "prescriptive" refinement of generalized unitarity, and show how closed, integrand-level formulae can be given for all leading-weight contributions to any amplitude in any quantum field theory. Regarding integration, I describe some new results that could be summarized as "dual-conformal sufficiency" : that all planar, ultraviolet-finite integrands can be regulated and computed directly in terms of manifestly dual-conformal integrals. I illustrate the power of having such representations, and discuss the role played by a (conjectural) cluster-algebraic structure for kinematic dependence.

Institut Henri Poincaré, salle 314, 3^{ème} étage

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