
MP 6: Quantum Field Theory I

Zeit: Dienstag 14:00–14:50

Raum: 30.45: 201

Hauptvortrag MP 6.1 Di 14:00 30.45: 201
Feynman Graph Polynomials — ●CHRISTIAN BOGNER — Institut für Theoretische Teilchenphysik und Kosmologie, RWTH Aachen

The integrand of any multi-loop integral in its Feynman parametric form is characterized by the first and the second Symanzik polynomial. These graph polynomials play a crucial role in current techniques

for the computation of Feynman integrals as well as in recent formal researches related to periods in geometry. In this talk I review combinatorial properties of these polynomials, including their construction from spanning forests and from determinants of Laplacian matrices, their behaviour under the deletion/contraction of edges and Dodgson-type factorization identities. I furthermore discuss a certain application of matroid theory to the subject of Feynman integrals.