

N³LO kick-off workstop / thinkstart

Wednesday, 3 August 2022 - Friday, 5 August 2022

IPPP

Book of Abstracts

Contents

Seminar: Three loop corrections for the QCD and QED form factors	1
Seminar: Two-Loop amplitudes via the AIDA framework	1
Seminar: OpenLoops (current and upcoming IR stability developments at one-loop)	1
Seminar: McMule Approach to/at N3LO (Pt. 1)	1
Welcome	1
Seminar: OpenLoops (status at two-loop)	1
Seminar: analytic two loop amplitudes from finite fields	2
Seminar: McMule Approach to/at N3LO (Pt. 2)	2
Motivations and goal	2
Summary & Homework	2
Conference Dinner	2

VVV / 1

Seminar: Three loop corrections for the QCD and QED form factors

- the details our calculation of hep-ph/2202.05276, in particular the semi-analytic method employed for the MIs and the optimization of the MI basis.
- discuss the possible implementation in a C++/Fortran code, what is necessary for the Monte Carlo and which features you require.
- discuss which contributions with closed fermion loops and hadronic vacuum polarization would be necessary to calculate.

RVV / 2

Seminar: Two-Loop amplitudes via the AIDA framework**Author:** Jonathan Ronca¹¹ *INFN - Sezione Napoli*

RRV / 3

Seminar: OpenLoops (current and upcoming IR stability developments at one-loop)**Corresponding Author:** jonas.m.lindert@durham.ac.uk

assembly & dirty tricks / 4

Seminar: McMule Approach to/at N³LO (Pt. 1)

5

Welcome**Corresponding Author:** yannick.ulrich@durham.ac.uk

RRV / 6

Seminar: OpenLoops (status at two-loop)

RVV / 7

Seminar: analytic two loop amplitudes from finite fields

Corresponding Author: ryaniain.moodie@unito.it

assembly & dirty tricks / 8

Seminar: McMule Approach to/at N³LO (Pt. 2)

Open Discussion / 9

Motivations and goal

Corresponding Author: yannick.ulrich@durham.ac.uk

Open Discussion / 10

Summary & Homework

11

Conference Dinner