

Theory Challenges in the Precision Era of the Large Hadron Collider

S.Alioli, A.Kardos, L.Magnea, S.Moch, D.Wackerath

The Galileo Galilei Institute

Overall plan

- week 1 (28.08-01.09) Kick-Off Conference
- week 2 (04.09-08.09) Precision QCD results
- **week 3 (11.09- 15.09) Scattering amplitudes and new algorithms**
- week 4 (18.09-23.09) Resummation, PDFs and MC developments
- week 5 (25.09-30.09) Training week for PhD students
- week 6 (02.10-06.10) Electroweak theory
- week 7 (09.10.-13.10) SMEFT and New Physics

Scattering amplitudes and new algorithms

- ...

Weekly plan

- every day (Mon-Fri)
 - 10:30am coffee (meet at the machine, courtyard)
→ use the colored key for free coffee
 - 01:00pm lunch
 - 04:00pm coffee (meet at the machine, courtyard)
- this week's talks at 11:30am and 02:30pm (30 min talk + 15 min discussion)
 - Monday **C.Papadopoulos** *Integrand-level reduction with HELAC2LOOP*
 - Tuesday **W.J.Torres Bobadilla** *3-loop Feynman diagrams for Higgs+jet production*
 - Tuesday **P.Mastrolia** *A smooth introduction to intersection theory*
 - Wednesday **S.Jones** *Updates on sector decomposition*
 - Thursday **O.Adriani** *LHCf: a precision forward physics detector at LHC*
 - Thursday **D. Kermanshah** *Numerical Integration of Loop Amplitudes in Momentum Space*
- Visit to Villa Galileo Wednesday afternoon at 03:00pm

Your duties

- Discuss, ask questions, collaborate, . . .
 - any other suggestion for activities → talk to the organizers
- Have coffee, lunch, . . .
- Acknowledgements in research work
 - *[XXX] is grateful to the Galileo Galilei Institute where the main part of this work was done for warm hospitality.*
 - *[XXX] is grateful to the Galileo Galilei Institute for hospitality and support during the scientific program on “Theory Challenges in the Precision Era of the Large Hadron Collider”, where part of this work was done.*