

# One loop more: 4 and 5 loop physics

*Wednesday, 7 September 2016 11:00 (30 minutes)*

For many processes at the LHC, there is an ever growing need for precision predictions. To this end, we created Forcer, a program that computes 4-loop massless propagator diagrams. Forcer solves IBP identities parametrically, which allows us to calculate processes beyond the reach of Laporta methods. We will show some recent results for 4-loop splitting functions. Finally, we will show a method to extend our program to include certain 5-loop calculations.

## Summary

**Primary author:** RUIJL, Ben (Nikhef)

**Co-authors:** VOGT, Andreas (University of Liverpool); HERZOG, Franz (CERN); VERMASEREN, Jozef Anton; UEDA, Takahiro

**Presenter:** RUIJL, Ben (Nikhef)