

Contribution ID: 615 Contribution code: **contribution ID 615**Type: **Oral**

REvolver: Automated running and matching of couplings and masses in QCD

Monday, 29 November 2021 18:40 (20 minutes)

In this talk I will present REvolver, a c++ library for renormalization group evolution and automatic flavor matching of the QCD coupling and quark masses, as well as precise conversion between various quark mass renormalization schemes. The library systematically accounts for the renormalization group evolution of low-scale short-distance masses which depend linearly on the renormalization scale and sums logarithmic terms of high and low scales that are missed by the common logarithmic renormalization scale evolution. The library can also be accessed through Mathematica and Python nterfaces and provides renormalization group evolution for complex renormalization scales as well. In the presentation I will demonstrate how the library works in real time.

Significance

References

<https://gitlab.com/revolver-hep/REvolver>
<https://arxiv.org/abs/2102.01085>
[https://authors.elsevier.com/sd/article/S0010-4655\(21\)00257-5](https://authors.elsevier.com/sd/article/S0010-4655(21)00257-5)

Speaker time zone

Compatible with Europe

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