Contribution ID: **59** Type: **not specified**

Two-loop master integrals and form-factors for pseudo-scalar quarkonia

Wednesday 27 April 2022 16:30 (30 minutes)

We compute the two-loop master integrals relevant for the NNLO QCD correction to heavy pseudo-scalar quarkonium production and decay both analytically and numerically. The analytic expressions involve elliptic multiple polylogarithms and iterated integrals of modular forms. We discuss the master integral computation and the form-factors obtained. We briefly discuss their phenomenological importance and present in addition the form-factors for the para-leptonium states.

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Session Classification: Parallel 6