

## Complete analytic and expansion formulae for the muon magnetic dipole moment

Since announcement of the muon  $g-2$  anomaly, plenty of papers have devoted to this anomaly. The approximate formulae are always adopted when determining the new physics contributions, while clear scope of applications are always absent. This talk is dedicated to the comprehensive analytical results and approximations for the canonical interactions at one-loop level. We not only collect the analytic and approximate expressions for the scalar and vector mediator cases, but also investigate the physics implications.

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