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PyR@TE 3

We present a new version of PyR@TE, a Python tool for the computation of renormalization group equations for general, non-supersymmetric gauge theories. Its new core relies on a recent paper by Poole & Thomsen (arXiv:1906.04625) to compute the β -functions. In this framework, gauge kinetic mixing is naturally implemented, and the Weyl consistency relations between gauge, quartic and Yukawa couplings are automatically satisfied. One of the main new features is the possibility for the user to compute the gauge coupling β -functions up to the three-loop order. Large parts of the PyR@TE code have been rewritten and improved, including the group theory module PyLie. As a result, the overall performance in terms of computation speed was drastically improved and the model file is more flexible and user-friendly.

Primary author: SARTORE, Lohan (LPSC)

Co-author: SCHIENBEIN, Ingo (Universite Grenoble Alpes)

Presenter: SARTORE, Lohan (LPSC)

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