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LINE: a Loop Integrals Numerical Evaluator for LHC physics

With the increasing precision of experimental measurements in collider physics, testing the Standard Model requires ever more accurate theoretical predictions. LINE is a software designed to contribute to this goal by addressing the numerical computation of multi-loop Feynman integrals solving differential equations via series expansion. The code is written in C to efficiently leverage arbitrary precision libraries, implementing low-level representations of mathematical objects and algebraic manipulations. This approach ensures both speed and accessibility, going beyond proof of concept and making large-scale cluster computations more feasible.

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