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An open-source machine learning framework for global analyses of parton distributions

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We present the software framework underlying the NNPDF4.0 global determination of parton distribution functions (PDFs). The code is released under an open source licence and is accompanied by extensive documentation and examples. The code base is composed by a PDF fitting package, tools to handle experimental data and to efficiently compare it to theoretical predictions, and a versatile analysis framework. In addition to ensuring the reproducibility of the NNPDF4.0 (and subsequent) determination, the public release of the NNPDF fitting framework enables a number of phenomenological applications and the production of PDF fits under user-defined data and theory assumptions.

Significance

We present an open source framework used to produce state of art parton distributions functions, developed to high standards.

References

https://inspirehep.net/literature/1918104

Speaker time zone

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