



## Allgemeines Physikalisches Kolloquium

Donnerstag, 07.12.2023 - 16 Uhr c.t.



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#### The proton structure in the LHC era

We review the status and precision of parton distribution functions (PDFs), the strong coupling and the heavy quark masses in global fits to next-to-next-to-leading order (NNLO) in QCD.

We discuss the impact of data from the LHC as well as the combined data from for inclusive deep-inelastic scattering.

We illustrate how the precision of available experimental data challenges current theoretical predictions and we outline areas for future improvements.