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## ROOT Based Analysis: From Data to Plots, Expressive, Easy and Fast

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During the past two years ROOT's analysis tools underwent a major renovation, embracing a declarative approach.

This contribution explores the most recent developments of the implementation of such approach, some real-life examples from LHC experiments as well as present and future R&D lines.

After an introduction of the tool offering access to declarative analysis, RDataFrame, the newly introduced syntax for the treatment of collections is described together with examples concerning the analysis of Open Datasets. The tooling for visualising and studying computation graphs built with RDataFrame in the form of diagrams is then presented.

Example real-life analyses based on RDataFrame from collider and non-collider experiments are then discussed from the programming model and performance perspective.

Finally, the status of existing R&D lines as well as future direction is discussed, most notably the integration of RDataFrame with big data technologies to distribute interactive calculations on massive computing resources.

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