

## ROOT Users Workshop



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# Using and Adapting ROOT for High-frequency Financial Market Data

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In particle physics, ROOT is the dominant framework for data analysis, resulting in strong collaborations, easy data sharing and reproducible research. On contrary, research on the high-frequency structure of financial markets lacks such an universally used framework, and often uses custom implementations to analyse large data sets. This results in a relative small number of high-frequency publications.

Our research is part of an unique collaboration between researchers in particle physics and in finance. We use ROOT to store, process and analyse high-frequency market data. This presentation will show the similarities of data in particle physics and finance, and argues the suitability of adapting ROOT for finance data. We present a framework built on top of ROOT to work with time series data. In addition, we show a prototype of an implementation integrating this framework into RDataframe, thus reducing the entry level of using ROOT for finance and leveraging the multi-threading performance of RDataframe.

## Summary

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