

# **Utilizing D3: creating interactive data templates for experimental and computational statistics and results for MINERvA**

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## **Abstract**

Physics today is a consortium of data that has been collected, analyzed, and distributed among the masses. However, the graphical representation of this data is a bombardment of numbers, lines, and error bars displayed in a singular graph. Utilizing this approach to the distribution of results can be difficult to read quickly even for the most seasoned physicists, and beyond confusing to the layman. However, there have been advancements in code that are able to use and manipulate data in simple and straightforward graphs that are able to separate data and values into animated graphs such as D3. Utilizing D3 can ease the display of multiple data sets, which are related, by showing them on one graph that is animated to transition between all the points. The MINERvA group will be utilizing a D3 library built and loaded onto GitHub in order to animate and display the data in an interactive and relatable interface for users of all levels. Using this animated graphics library will create a more user-friendly interface for the MINERvA group that will be capable of explaining physics and experimental results to, not only, the science community, but to anyone interested in neutrino physics.