

# Event visualisation in ATLAS: current software technologies / future prospects and trends

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At the beginning, HEP experiments made use of photographic images both to record and store experimental data and to illustrate their findings. Then the experiments evolved and needed to find ways to visualize their data. With the availability of computer graphics, software packages to display event data and the detector geometry started to be developed. Here a brief history of event displays is presented, with an overview of the different event display tools used today in HEP experiments in general, and in the LHC experiments in particular.

Then the case of the ATLAS experiment is considered in more detail and two widely used event display packages are presented, Atlantis and VP1, focusing on the software technologies they employ, as well as their strengths, differences and their usage in the experiment: from physics analysis to detector development, and from online monitoring to outreach and communication.

Future development plans and improvements in the ATLAS event display packages will also be discussed, as well as an outlook on interesting technologies for future event display tools for HEP: from web-based interactive visualizations to the usage of game engines.

## Tertiary Keyword (Optional)

Data processing workflows and frameworks/pipelines

## Secondary Keyword (Optional)

Software development process and tools

## Primary Keyword (Mandatory)

Visualization

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