

Development of the Browser-based 3D Visualisation Approach for the ATLAS Outreach Applications

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Outreach & Education is an essential part of HEP experiments where visualisation is one of the key factors. 3D visualisation and advanced VR, AR, and MR extensions make it possible to visualise detectors' facilities, explain their purpose, and functionalities, and visualise different physical events. The visualisation applications should be extensive, easily accessible, compatible with most hardware and operating systems, simple to use, with a well-developed user framework and open source. The best fit to these requirements brings the browser-based applications based on the gaming engines. However, it causes limitations in the performance. Geometry descriptions play a critical role in finding agreement between performance and quality of the visualisation scene. The paper describes methods of geometry simplification and AR/VR applications developed based on simplified geometry.

Alternate track

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Yes

Primary authors: SHARMAZANASHVILI, Alexander (Georgian Technical University (GE)); OLIVEIRA DAMAZIO, Denis (Brookhaven National Laboratory (US)); NOZADZE, Mariam (Georgian Technical University (GE)); ZURASHVILI, Nino (Georgian Technical University (GE)); DOLINSKI, Vladimir (Georgian Technical University (GE))

Presenter: OLIVEIRA DAMAZIO, Denis (Brookhaven National Laboratory (US))

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