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Visualisation of the ROOT geometries (TVolume and TGeoVolume) with Coin-based model.

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Using the modern 3D visualization software and hardware to represent the object models of the HEP detectors would create the impressive pictures of events and the detail views of the detectors facilitating the design, simulation and data analysis and representation the huge amount of the information flooding the modern HEP experiments. In this paper we represent the work made by members of STAR collaboration from Laboratory of High Energy Physics JINR Dubna. This work devoted to visualisation of the STAR detector geometry. Initially the detector geometry is described by means of specific AGE - geometry specification language and it can be converted to either TVolume or TGeoVolume type object of ROOT environment using of specially developed software. We created class library for conversion of the ROOT OO model of the detector from ROOT environment to the text "iv" file. Our class library assumes the conversion of ROOT OO models to Coin-based C++ representation and the Coin-based 3d Viewer with cutting / highlighting / selecting pieces of the image features. Since the class library implementation is free of the STAR experiment specific it can be used to visualize any detector geometry represented in the ROOT environment. The results of our work can be downloaded from the LHE web server.

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