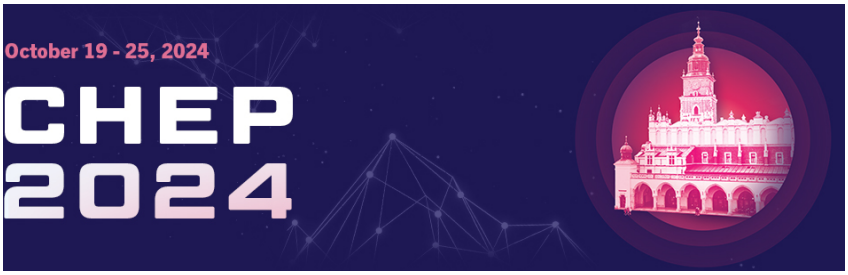

Contribution ID: **132** Type: **Talk**

TGeoArbN - A ROOT compatible triangle mesh geometry implementation

Wednesday 23 October 2024 14:42 (18 minutes)

To increase the automation to convert Computer-Aided-Design detector components as well as entire detector systems into simulatable ROOT geometries, TGeoArbN, a ROOT compatible geometry class, was implemented allowing the use of triangle meshes in VMC-based simulation. To improve simulation speed a partitioning structure in form of an Octree can be utilized. TGeoArbN in combination with a CADToROOT-Converter (based on [1]) allowed e.g. for a high level of automation for the conversion of the forward endcap geometry of the PANDA electromagnetic calorimeter.
The aim of the talk is to give an overview on TGeoArbN and the modified CADToROOT-Converter version.

[1] T. Stockmanns, “STEP-to-ROOT –from CAD to Monte Carlo Simulation”,
Journal of Physics: Conference Series 396 (2012) 022050,
url: https://doi.org/10.1088/1742-6596/396/2/022050

Primary authors: SALISBURY, Ben (HISKP Bonn); Dr SCHMIDT, Christoph (HISKP Bonn); Prof. THOMA, Ulrike (HISKP Bonn)

Presenter: SALISBURY, Ben (HISKP Bonn)

Session Classification: Parallel (Track 3)

Track Classification: Track 3 - Offline Computing