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An Active CAD Geometry Handling System for MAUS Software

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The Mice Analysis User Software (MAUS) for the Muon Ionisation Cooling Experiment (MICE) is a new simulation and analysis framework based on best-practice software design methodologies. It replaces G4MICE as it offers new functionality and incorporates an improved design structure. A new and effective control and management system has been created for handling the simulation geometry within MAUS. The active CAD geometry handling system translates a great level of detail of the experiment with over twenty beam line components from CAD drawings, which accurately represent the on-going construction of the experiment into Geometry Description Markup Language (GDML). Due to the on-going construction the CAD drawings are altered and improved at regular intervals. This is stored on the online Configuration Database (CDB). The CDB also stores field information and specific details of each data run conducted. The geometry handling system allows users to download either a current representation of the experiment, a previous representation of the experiment for a particular time frame or a geometry which relates to a particular run. The download process combines all geometric, field and run data for the users to simulate. This paper describes the design and operation of the system.

Student? Enter 'yes'. See <http://goo.gl/MVv53>

Yes

Primary author: LITTLEFIELD, Matthew (Brunel University)

Co-authors: Dr WILSON, Antony (STFC - Science & Technology Facilities Council (GB)); Dr ROGERS, Chris (STFC); MICE COLLABORATION, On Behalf of the (MICE); KYBERD, Paul (Departm.of Physics(QMW-Coll.)); BRUNEL UNIVERSITY, The HEP Group (Brunel)

Presenter: LITTLEFIELD, Matthew (Brunel University)

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