

# An Active CAD Geometry Handling System for MAUS Software

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## **Abstract**

The Modular Analysis User Software (MAUS) for the Muon Ionisation Cooling Experiment (MICE) is a new simulation and analysis framework based around the best modern software processes and replaces G4MICE, an older framework based on ageing paradigms. 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 over twenty beam line components from CAD drawings, which are a real time and accurate reflection of the experiment, into Geometry Description Markup Language (GDML). 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 details of the system and its operation.