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CMS Experience with Adoption of the Community-supported DD4hep Toolkit

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DD4hep is an open-source software toolkit that provides comprehensive and complete generic detector descriptions for high energy physics (HEP) detectors. The Compact Muon Solenoid collaboration (CMS) has recently evaluated and adopted DD4hep to replace its custom detector description software. CMS has demanding software requirements as a very large, long-running experiment that must support legacy geometries and study many possible upgraded detector designs of a constantly evolving detector that will be taking data for many years to come. CMS has chosen DD4hep since it is a high-quality, community-supported solution that will benefit from continuing modernization and maintenance. This presentation will discuss the issues of DD4hep adoption, the advantages and disadvantages of the various design choices, performance results, and the integration of the plugin systems from CMS and Gaudi, another open-source software framework. Recommendations about DD4hep based upon the CMS use cases will also be presented.

Consider for promotion

Yes

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