

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

CMS Tracker Geometry Migration to the DD4hep Framework

ANDRES VARGAS HERNANDEZ, Catholic Univ of America, CMS COLLABORATION — DD4hep (Detector Description for High Energy Physics) is a geometry framework based on well known technologies on High Energy Physics: the ROOT framework and Geant4. The Compact Muon Solenoid (CMS) experiment, is the first collaboration in assuming the challenge of porting its existing geometry to this new framework. In the past, the geometry was based on classes written as part of the CMS Software framework CMSSW, a package named “Detector Description” or DD. However, due to the lack of maintenance of these basic building blocks, the modification and addition of new features is rather challenging and if every experiment develops the same feature for its own framework, there would be duplication of work which renders itself in a rather inefficient process. By using DD4hep, a project of the Advanced European Infrastructures for Detectors at Accelerators (AIDA), CMS and other experiments benefit from the continuous support and development, this project brings together developers from different collaborations to work on common features that will benefit the high energy physics community as a whole. In this talk I will present the progress, lessons learned and contributions to the effort of migrating the CMS geometry, and in particular the tracker subdetector.

Andres Vargas Hernandez
Catholic Univ of America

Date submitted: 12 Jan 2020

Electronic form version 1.4