

GDML I/O for VecGeom Geometry Package

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Motivation

- ▶ VecGeom is a library for vectorized geometry navigation in High Energy Physics applications (GeanV, Geant4, ROOT)
- ▶ GDML is an XML schema for application-independent readable persistent geometry storage.
- ▶ I/O of VecGeom geometry was possible via ROOT geometry.
- ▶ A standalone module provides lightweight persistency.

Motivation

- ▶ A standard XML parsing library handles the files and allows to process the in-memory representation.
- ▶ A DOM parser allows to easily write gdml files.
- ▶ A validating parser allows to omit some checks and catch errors early.

⇒ use Xerces-C parser

- ▶ already probed in Geant4

Result

- ▶ Reads all solids supported by both GDML and VecGeom
- ▶ Constructs VecGeom geometry
- ▶ Stores material information in a separate structure

- ▶ Final report <https://sd57.github.io/vgdml.io/>