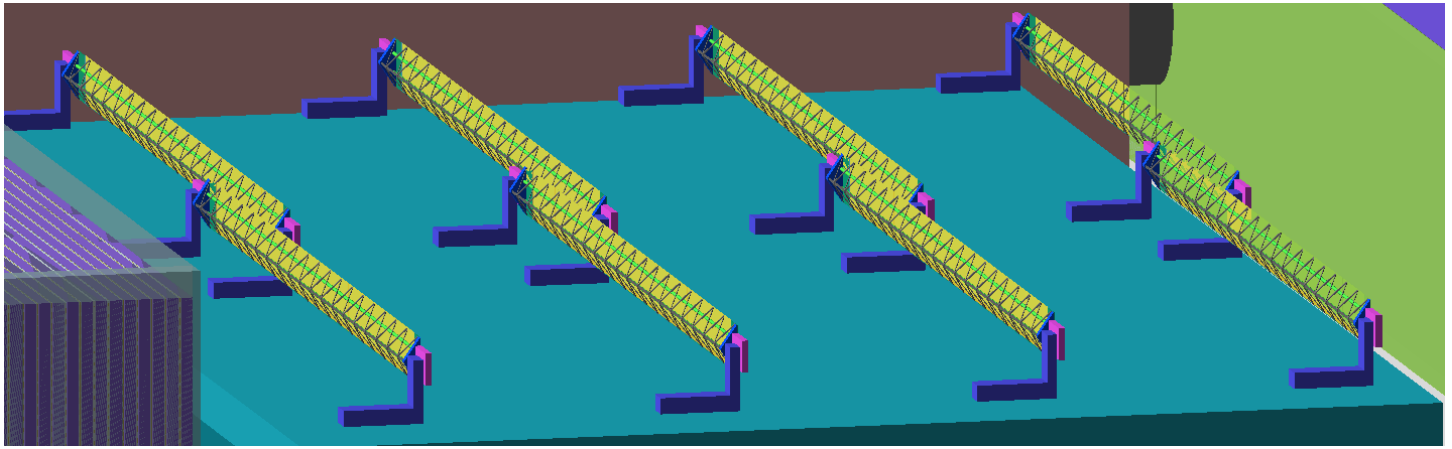
Exporting Luxe geometry to gdml file

- Save the geometry in the beginning of the Run;
- it can be linked to simulation output;
- Can be imported back to Geant4 for check;
- Can be loaded to root for event display of simulated results;

```
64  void RunAction::BeginOfRunAction(const G4Run*)
65  {

120   if (isMaster) {
121     if (fDumpGeometry) {
122       G4GDMLParser parser;
123       parser.Write("lxgeomdump.gdml", fDetector->GetphysiWorld());
124     }
125   }
```



Exporting Luxe geometry to gdml file

Seemed as a problem in G4GDMLWriteStructure.

Exporting assemblies to gdml file

Recording, Visualizing and Persisting Data

sqytau 1 22h

The question is about exporting of assemblies to gdml file using G4GDMLParser::Write(…)
It seems that if a given volume contains imprints of several (e.g two) different G4AssemblyVolume, then only one (the first) of them is exported to gdml <structure> section of that volume.
It looks like the choice of assemblies for gdml is made in recursively called G4GDMLWriteStructure::TraverseVolumeTree(…)
First it selects assembly based on its ID (e.g. 1) and the content of class variable addedAssemblies:
L691 if(std::find(addedAssemblies.cbegin(), addedAssemblies.cend(), assemblyID) == addedAssemblies.cend())
in order to add it to <structure> section as assembly (e.g. <assembly name="Assembly_1">…)

and then based on the imprint ID (e.g. 1), which is implemented as independent on assemblyID:
L704 if(std::find(addedImprints.cbegin(), addedImprints.cend(), imprintID) == addedImprints.cend())
the imprint of the assembly is added to the volume description.

If there are e.g. two assemblies Assembly_1 and Assembly_2 which are imprinted in the same volume V1, then for the assembly Assembly_2 and its imprint 1 the second condition (L704) is false as imprint 1 was added for Assembly_1 and the imprint 1 of Assembly_2 is skipped.
At least this is how it seems to work for my geometry.

I tried a simple change:
std::vector<int> addedImprints substituted by
std::map<int, std::vector<int> > addedImprints
and then in L704 and L760 accordingly:
if(std::find(addedImprints[assemblyID].begin(), addedImprints[assemblyID].end(), imp
addedImprints[assemblyID].end()) …
addedImprints[assemblyID].push_back(imprintID);

That seemed to solve the problem.

gcosmo

You may refer to this ticket which was recently addressed and closed:

- 2343 – Multiple Assemblies aren't written to GDML fully 1

Problem exporting assembly to gdml file

Problem 2343 - Multiple Assemblies aren't written to GDML fully

Status: RESOLVED FIXED

Alias: None

Product: Geant4
Component: persistency/gdml (show other problems)
Version: 10.7
Hardware: All All

Importance: P4 major
Assignee: Witold.Pokorski

URL:

Depends on:
Blocks:

Reported: 2021-03-03 20:50 CET by Laurie Nevay
Modified: 2021-03-17 19:04 CET (History)
CC List: 0 users

See Also: