



Status and Plans

Hans Wenzel


Outline:

- Status of DoSSiER
 - Geant 4 test data (simplified Calo)
 - RESTful Web service and Web Application
- Plans


<http://g4devel.fnal.gov:8080/DoSSiER/>



Geant4 test data Simplified Calo in DoSSiER



Database of Scientific Simulation and Experimental Results



Home Geant4 Geant4 Collaborators GeantV GENIE Fermilab CERN
Mon Dec 05 07:50:58 CST 2016

Left

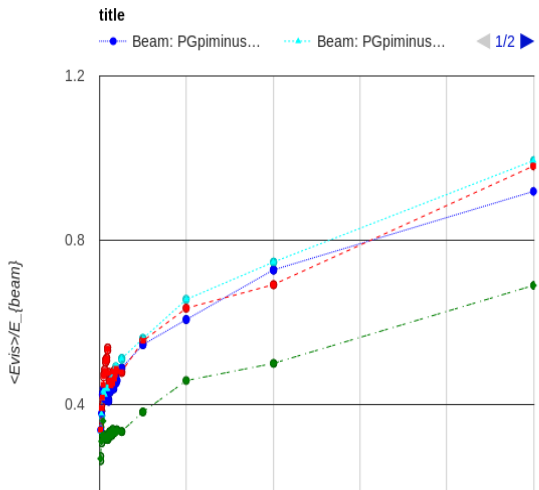
Main


- [Display exp. data](#)
- [Display Geant4 data](#)
- [Display GeantV data](#)
- [Display GENIE data](#)
- [Display Statistics](#)
- [Display Dictionaries](#)
- [RESTful web service](#)
- Work in Progress**
- [Display Table](#)


2001	simplifiedCalo	Test of Shower shapes using selected simplified calorimeter setups.	Andrea Dotti (SLAC) Alberto Ribon (CERN)	Geant4 hadronic working group	energy resolution calorimeter Atlas CMS
------	----------------	---	---	-------------------------------	--

References to experimental data used to validate this test			
Title	Journal/URL	Authors	Link
GEANT4: A Simulation toolkit	Nucl.Instrum.Meth. A506 (2003) , p: 250-303	Agostinelli, S. et al.	link
Validation of Geant4 Releases with distributed resources	J.Phys.Conf.Ser. 396 (2012) , p: 032033	Dotti, Andrea et al.	link
Simulation of Showers with Geant4	(2013) , p: 247-253	Dotti, Andrea et al.	link
Description of hadron-induced showers in calorimeters using the GEANT4 simulation toolkit	(2011) , p: 2128-2134	Dotti, Andrea et al.	link

MCdetail Target Observable



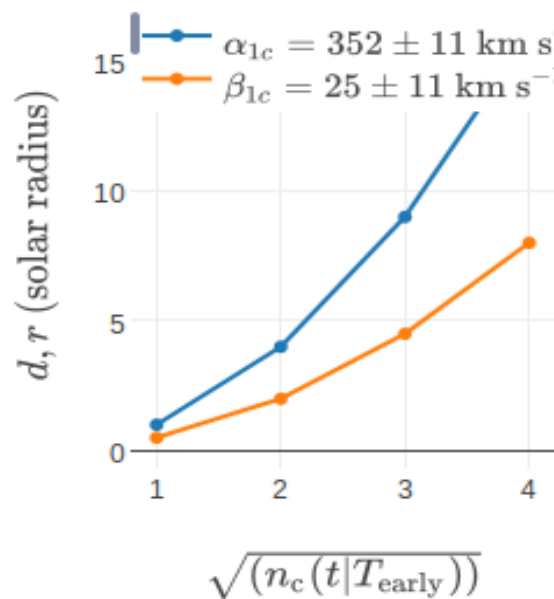
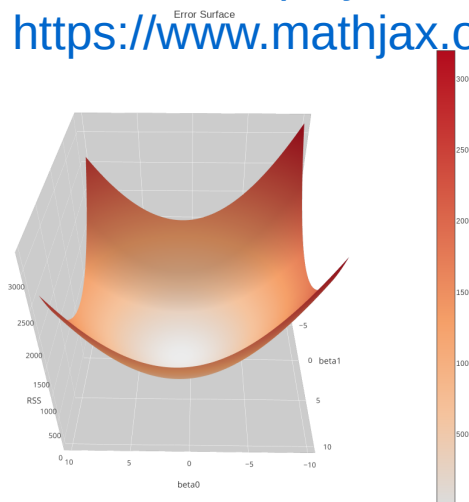




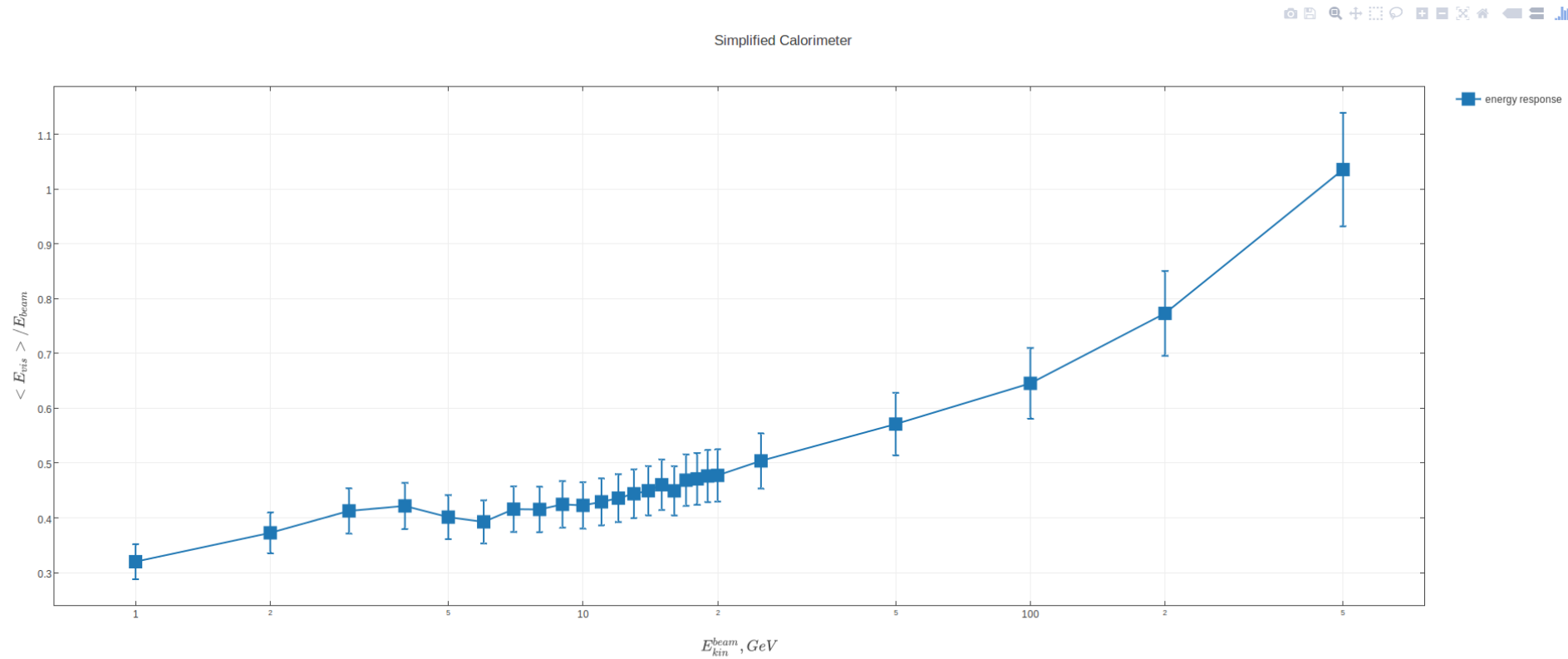
Java script plotting tool

Replace google charts with plotly.js: <https://plot.ly/javascript/>

- Many scientific charts available.
- Runs locally, can distribute code with DoSSiER (google-chart renders on google servers).
- Open source.(google-chart is not! open source).
- Interactive.
- Input data json (JavaScript Object Notation) style instead of 'clumsy' google table.
- Allows to display latex style formulas and text:
- <https://www.mathjax.org/>

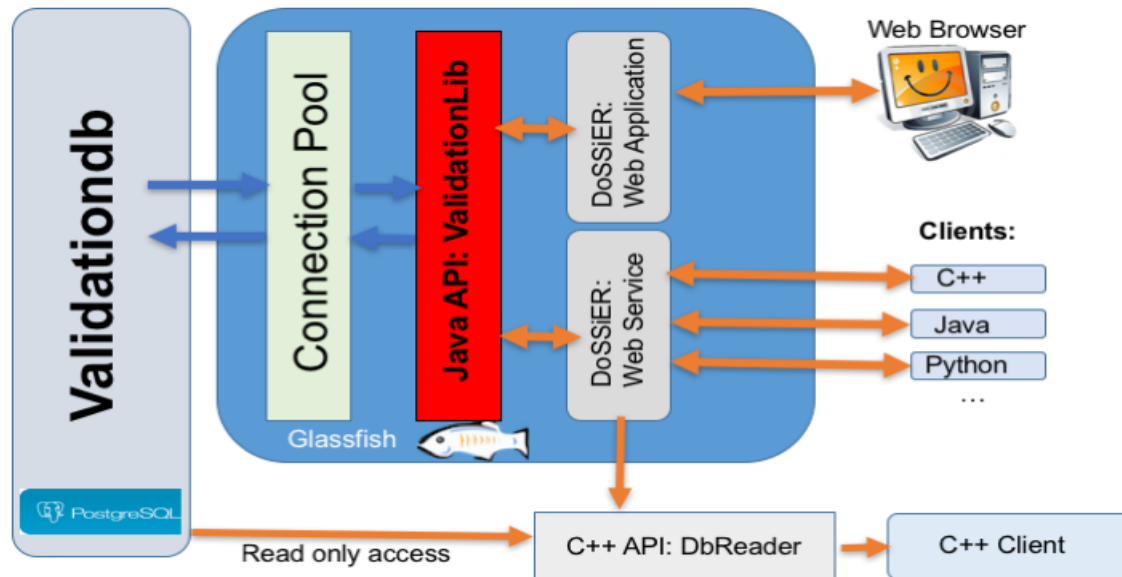


Geant4 test data Simplified Calo in DoSSiER



Web Service and Web Application

- RESTful Webservice which allow programmatic access and web application are now combined → simplifies maintenance.
- API still needs to be finalized. (see next slide)
- Need features like
 - Search, access by keywords ...
 - Allow for programmatic upload by authenticated users → allow for scripting and automating the upload.
- The separate web-service DoSSiER_WS will be taken offline by the end of next week!!



Web Service and Web Application

DoSSIER
Database of Scientific Simulation and Experimental Results

Home Geant4 Geant4 Collaborators GeantV GENIE Fermilab CERN Mon Dec 05 08:34:11 CST 2016

Left

- Main
 - Display exp. data
 - Display Geant4 data
 - Display GeantV data
 - Display GENIE data
 - Display Statistics
 - Display Dictionaries
 - RESTful web service**
 - Work in Progress
 - Display Table

Welcome to the DoSSIER RESTful web service portal

DoSSIER provides a RESTful web service to access the data records and the dictionaries describing the metadata. This is work in progress! The final API has not been decided and we plan to support various interchange formats (json/xml) At the moment the following methods are supported (subject to change):

To retrieve the dictionaries in json format use the following syntax:

- To retrieve the Access dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Access>
- To retrieve the Beam dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Beam>
- To retrieve the Datatypes dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Datatypes>
- To retrieve the Material dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Material>
- To retrieve the Mcdetail dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Mcdetail>
- To retrieve the Mctool dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Mctool>
- To retrieve the Observable dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Observable>
- To retrieve the Particle dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Particle>
- To retrieve the Reaction dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Reaction>
- To retrieve the Reference dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Reference>
- To retrieve the Test dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Test>
- To retrieve the Working Groups dictionary: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/dictionary?name=Wgroups>

To retrieve a result record (here 2) in json format:

- To retrieve the result record 2: <http://q4devel.fnal.gov:8080/DoSSIER/WebAPI/get?format=json&record=2>

```
[
  {
    "accessid": 1,
    "access": "public"
  },
  {
    "accessid": 2,
    "access": "internal"
  },
  {
    "accessid": 3,
    "access": "temporary"
  },
  {
    "accessid": 4,
    "access": "obsolete"
  }
]
```

Plans

- Clean up and optimize(speed up) the Java API, optimize server configuration.
- Display data in table form export to different formats → excel, xml,json..)
- Overlay experimental and test data, combine data from different experiments.
- Improve navigation, add searches, selection by keywords etc.
- Work with developers to add more data.
- Define the web service API.
- Replace google chart with plotly.js

API (searches)

<http://g4devel.fnal.gov:8080/DoSSiER/WebAPI/test/find/?responsible=Yarba?wg=hadronic>

Other keywords: wg,keyword,name....

<http://g4devel.fnal.gov:8080/DoSSiER/WebAPI/result?beam=nimrod>

Other keywords: beam, target,....

