

Development of TileCal Display

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TileCal Display

1. Event visualization: tracks, jets, cells, etc.
2. Cognitive - Educational/Outreach application for TileCal
3. Technical description of TileCal



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1. Event Visualization

1.1 *Development of system core, including: camera, light, mesh (geometry + material), controls (zoom in, zoom out, rotation, drag)*

1.2 Cells:

1.2.1 Visualize TileCal cells

1.2.2 Display module and cell name

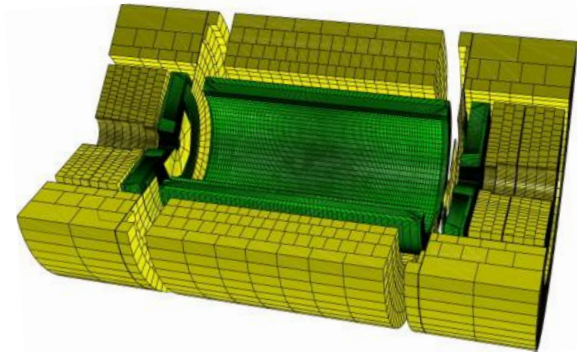
1.2.3 Color cells by their energies

1.2.4 Create filters

1.2.5 Select modules and cells and display their parameters

1.2.6 Create cuts

1.2.7 Display signals



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1. Event Visualization

1.3 Jets:

1.3.1 Display jets

1.3.2 Detect which TileCal cells are in this jet

1.3.3 Sum energies of jet cells

1.3.4 Do the same for all of the calorimeters

1.3.5 Compare energies in ECAL and HCAL

1.3.6 Compare jet energy from input file to the sum of energies in all calorimeters

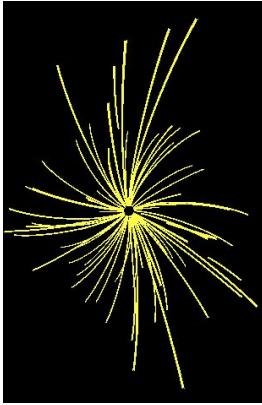
1.3.7 Develop filters

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1. Event Visualization

1.4 Tracks:



1.4.1 Improve precision of track drawing algorithm

1.4.2 visualize hits

1.4.3 display muon tracks

1.4.4 detect TileCal cells, which this muons went through

1.4.5 sum energies of muon cells

1.4.6 Calculate muon isolation



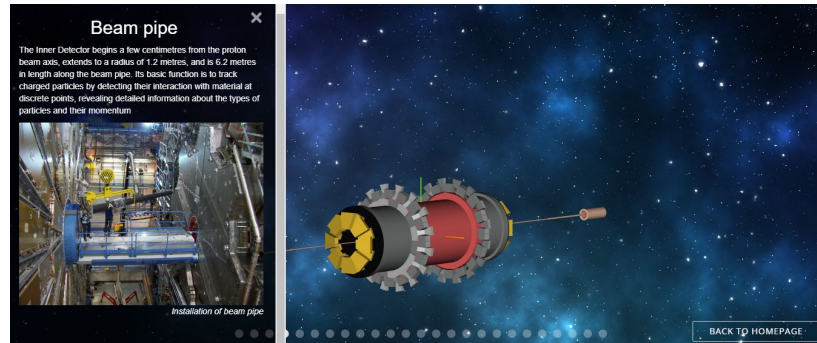
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2. Cognitive

2.1 Application which will display all the possible information (physics @ TileCal, engineering @ TileCal, educational videos explaining how different parts of TileCal work, installation videos, photos, TileCal geometries) about TileCal, links to the pages that give more information about TileCal

2.2 TileCal virtual reality application, including: fly mode, controls (hands on experience)



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3. Technical Description

3.1 Development of TileCal technical description, including electronics, supports, RoD etc.

3.2 Development of detailed geometric descriptions of TileCal

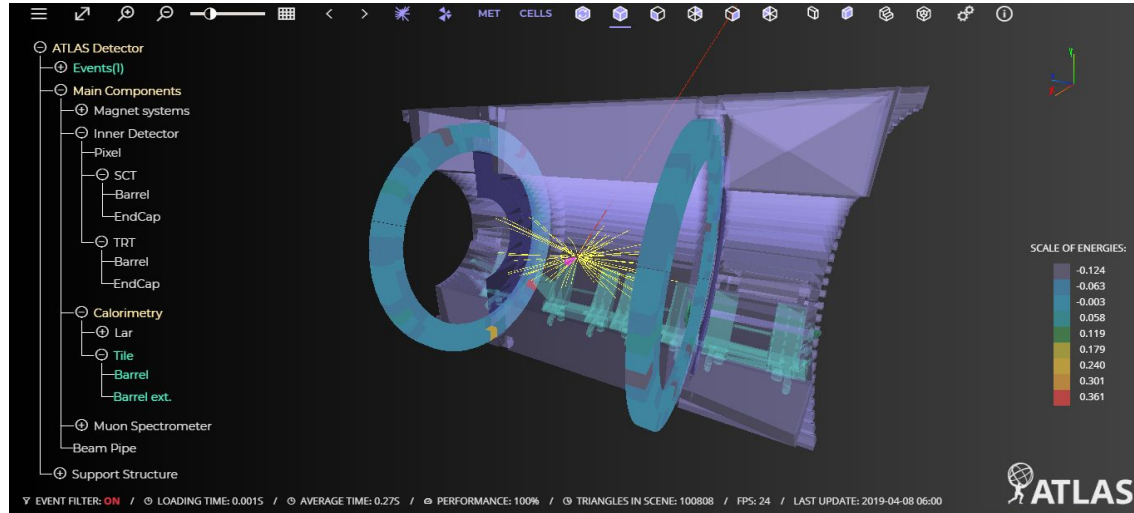
3.3 Display "dead" cells from DB



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System Core



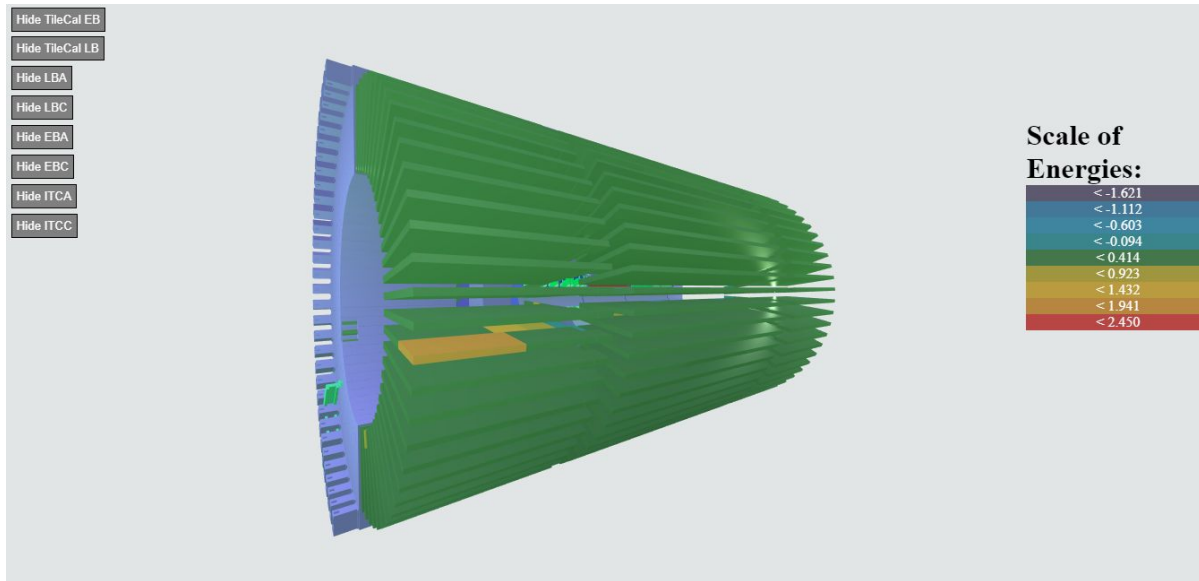
tracer.web.cern.ch



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Status



<http://cadcamge.ch/at/TileCal/>



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