Subject: ilcsoft release v01-17-08
Posted by gaede on Fri, 31 Jul 2015 12:35:54 GMT
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Dear all,

a new developers release v01-17-08 is available.

It contains a lot of developments from the High Level Reconstruction Week at DESY and a number of improvements for the new DD4hep based simulation and reconstruction.

Please use the corresponding ilcinstall tag for installation:
https:// svnsrv.desy.de/websvn/wsvn/General.ilctools/ilcinstall/tags/ v01-17-08/?op=dl&isdir=1&rev=3197&peg=3197

A reference installation is available at

/afs/desy.de/project/ilcsoft/sw/x86_64_gcc44_sl6/v01-17-07 # SL6 gcc 4.4

(cvmfs and other OS to follow).

There is also an ILDConfig release v01-17-08 that has steering files for running the simulation and reconstruction (both old and new) with this release:

 https://svnsrv.desy.de/public/marlinreco/ILDConfig/tags/v01- 17-08

For instructions see:

https:// svnsrv.desy.de/websvn/wsvn/General.marlinreco/ILDConfig/tags /v01-17-08/StandardConfig/current/README

and
https:// svnsrv.desy.de/websvn/wsvn/General.marlinreco/ILDConfig/tags /v01-17-08/StandardConfig/lcgeo_current/README

Please report problems and questions related to this release in this thread.

Frank, for the ilcsoft team.

```
################################
#
#   iLCSoft release - v01-17-08
#
################################
```

This is a developers release that adds some functionality
to the recent v01-17-07 release.

In particluar there have been many new subpackages added
to MarlinReco as a result of the
High Level Reconstruction Week held at DESY:
  http://agenda.linearcollider.org/event/6787/

Also some important changes have been made to the
'new' reconstruction code for DD4hep (lcgeo) based
simulations.

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 Changes in v01-17-08 w.r.t. iLCSoft v01-17-07

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Introduced 1 new package:

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 DDMarlinPandora v00-01
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  N.Nikiforou, CERN

  - copy of MarlinPandora that replaces the geometry definition from GEAR
    with DD4hep/DDRec

  - staus: experiemental

Changed Packages:

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MarlinReco v01-13
========================
  F.Gaede
   - renamed SimpleLHCalDigi to SimpleFCalDigi
   - deleted SimpleLCalDigi
   => old steering files need to be updated !!

  M. Berggren
   - added parameter FixLCalHits SimpleLHCalDigi in order to:
    - fix of the wrong xyz for hits in LCal. LCal CaloHits (collection LCAL)
      are now within a few micron of their correct position. LCal SimCaloHits
      (collection LumiCalCollection) still have the flawed xyz.

  J.List
  - updated SimpleLHCalDigi to include functionality fromm SimpleLCalDigi
   -> can be used for all fwd calos

  J.Tian
   - added new package:
     Analysis/OverlayRemoval

  H.Sert
  - new processor low momentum pi/mu separation:
   Analysis/PIDTools/LowMomentumMuPiSeparationPID_BDTG

  G.Wilson
  - new photon finder package:
   Analysis/GammaGammaCandidateFinder
   - provides a 4-vector w/ mass-constrained fit (using MarlinKinfit - new dependency)

  M Berggren
  - fixed links in RecoMCTruthLink/src/RecoMCTruthLinker.cc
  - full links in both directions (true->seen, seen->true) for PFOs, Tracks and Clusters.

 | v01-12 | (v01-17-07 contained v01-11 !)

J.Tian
 - added new Analysis/IsolatedLeptonTagging
   MVA based isolated lepton finder

T.Calancha
  - fixes for Analysis/FourMomentumCovMat
    - printout and read-only exception

M.Kurata
- update PIDTools for several kinds of likelihood calculation

S.Bilokin
 - added Analysis/VertexChargeRecovery

T.Suehara:
 - Analysis/TauFinder added

F.Gaede

- added copy of ClusterShapes from MarlinUtil
  -> use "include "ClusterShapesMR.hh"
     and marlinreco::ClusterShapes
- applied to ComputeShowerShapesProcessor.cc
- eventuall changes should be merged back to MarlinUtil

- fixed warning -Wc++11-narrowing in TPCDigitizer

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DD4hep v00-14
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F.Gaede
  - fixed writing of generator status for lcio::MCParticle
    in Geant4Output2LCIO.cpp

A.Sailer
 - Add missing scope to /DD4hep/Factories.h, to not force everyone to use using namespace

F.Gaede: 2015-07-15
 - changed type in SurfaceList and SurfaceMap from Surface to ISurface
 - added methods length_along_u/v() to ISurface

- moved setting of CMAKE_CXX_FLAGS (if DD4HEP_USE_CXX11) from DD4hep.cmake to
CMakeLists.txt

2015-07-11 M.Frank

  - added starter docs DD4hepStartersGuide.pdf

*** Important ***
  Before updating, backup your existing and working checkout. Though I was running
  the basic tests, there may be unchecked corners of the software.

Notes:
  - Backwards compatibility mode for the usage of ROOT 5 and ROOT 6 alternatively.
  - For ROOT 6 the Gaudi PluginService is used and added to the distribution.
  - DD4hep is distributed with a licence. See $DD4hepINSTALL/LICENSE for details.
  - In the doc area the $DD4hepINSTALL/doc/CREDITS file everybode should add her/his
    name, if contributed significantly.
  - Unfortunately this meant to add/change the headers of all files and give a
    pointer to the licence file. If I accidentally changed the author name, please
    chagne it back.

  - The plugin factory declaration statements were changed to accomodate both
    ROOT 5 and ROOT 6 and to keep the number of 'ifdef' statements at a minimum.

  - TODO: Properly change the cmake scripts to accomodate for ROOT 6 and the
    automatic switch when building DD4hep.

    For reference reasons: this commits is revision 1812 + 1813 (DDDetectors)

 | v00-13 | (v01-17-07 contained v00-12)

2015/07/02 Nikiforos Nikiforou

    - Added isRadiator() helper function in DDCore/XML/XMLDetector.h/cpp
      Mirroring functionality of isSensitive() and used in geometry drivers
      e.g. to calculate total absorber thickness

    - Extended LayeredCalorimeterStruct in DDRec/DetectorData.h to include
      additional parameters required by Pandora:

inner_phi0 (e.g. alignment for inner symmetry)
outer_phi0 (e.g alignment for outer symmetry)
NOTE: phi0 still remains but is deprecated
gap0 (e.g stave gap along r-phi)
gap1 (e.g middle stave gap along z)
gap2 (reserved for future use)

2015-06-29 A.Sailer

- always store lcio collections, even if they are empty in Geant4Output2LCIO (DDG4/ddsim)

2015-06-29 F.Gaede

- changed env scripts to prepend to library pathes (DD4hep and dependant packages)
  -> using a newer lcgeo version than the one provided in ilcsoft can simply
     be done w/ source ./bin/thislcgeo.sh

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DD4hepExamples v00-14
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- no changes wrt. v00-12

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lcgeo v00-05
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N. Nikiforou
- Added TrackerEndcap_o1_v02_geo.cpp (svn cp'd from TrackerEndcap_o1_v01_geo.cpp) which supports
  ILD ID encoding and implements ring modules. Elements (enumerated as "sensors") in one ring
  (constant R) have the same "module" number but different sensor number.
  Also modified the CLIC_o2_v02 model compact (InnerTracker_o2_v01_01.xml
  and OuterTracker_o2_v01_01.xml) to use the new driver. Also now implements the "side" bitfield
  side=0 is positive, side=1 is negative.
- Introduced new driver VertexEndcap_o1_v02 and necessary changes to compact file for

CLIC_o2_v02.
    The new xml also implements double layers in the endcap but with each layer having its own ID.
    Also, in the new VertexEndcap driver similar changes as above VertexEndcap.

  S.Lu
- updated Ecal and Hcal in Share_ILD_o1_CLIC

  T.Quast
- fixed DetectorData structure for several drivers
  (as needed for drawing the detector w/ DD4hep in CED)

  M. Petric
- added CLIC_o2_v02 model w/ simplified Ecal barrel
  ECalBarrel_o2_v01_01.xml in order to set correct W thicknesses

  F.Gaede

- added TPCSDAction.cpp
  - ported from Mokka/TPCSD04.cc
- introduces Geant4 dependency
   -> to be addressed ...
- activated in TPC10_geo.cpp
  -> hits should be exactly on pad row centers ...

- updated ddsim.py :
   - use Geant4ScintillatorCalorimeterAction
     as defaults for all calorimeters
   - use TPCSDAction for TPC

  A.Sailer
   - Implemented FieldMapBrBz.cpp, based on the 2D Fieldmap of Mokka FieldX03
   - Example XML for the fields section of the compact XML

        <field name="DetectorMap" type="FieldBrBz"
            filename="${lcgeo_DIR}/fieldmaps/ILDMap_KB_20150204_BRhoZ.root"
          tree="fieldmap:rho:z:Brho:Bz"
          rScale = "1.0"
          zScale = "1.0"
          bScale = "1.0"

```
            rhoMin = "5*mm"
            zMin = "5*mm"
            rhoMax = "7005*mm"
            zMax = "7005*mm"
            nRho = "701"
            nZ = "701"
            >
        </field>
```

- added ./fieldmaps/ILDMap_KB_20150204_BRhoZ.root
  latest field simulation for ILD by K.Buesser

- requires BOOST

N. Nikiforou
  - added EcalBarrelFace_v00.xml/EcalEndcapFace_v00.xml to CLIC_o2_v01
  - Enabled detailed shower mode for calorimeters by default in ddsim.py/DD4hepSimulation.py

F.Gaede
  - added PolyhedralBarrelSurfaces_geo.cpp/PolyhedralBarrelSurfaces_geo.cpp
  - to be used for track states at the calorimeters
  - added as EcalBarrelFace_v00.xml/EcalEndcapFace_v00.xml to ILD_o1_v05

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DDKalTest v00-02
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  F.Gaede
 - changed to just use abstract ISurface and ICylinder

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aidaTT v00-02
========================
 -F.Gaede:
    - fixed major memory leak in Vector5 and fiveByFiveMatrix
      (unneeded alloc in assignment operator)

    - made c'tors and accessors in Vector5 and fiveByFiveMatrix
      more efficient by removing unneeded range checks and
      initializations

-Y.Voutsinas:
  - adding test for functions calculateCurvature & calculateLambda
  - correcting transformation from perigee to L3

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MarlinTrk v02-00-01
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  F.Gaede
 - made createTrackStateAtCaloFace() work for DD4hep
   (and old Mokka/Gear) based tracking

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MarlinTrkProcessors v02-01
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  R.Simoniello
  - updated Refitting/src/ExtrToTracker.cc
    - extrapolation also in endcap subdetectors + CA selecting longest (nhits) tracks

  F.Gaede
 - handle empty collections gracefully (for lcgeo/ddsim)
   in Digitisers/src/PlanarDigiProcessor.cc

 - use abstract ISurface

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Clupatra v00-12
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  F.Gaede
 - added parameters CaloFaceBarrelID/CaloFaceEndcapID
   to ClupatraProcessor (needed for lcgeo based simulations)
   default value for both : ILDDetID::Ecal
 - adopted LCIOTrackConverter to use these paramters

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KiTrackMarlin v01-07
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F.Gaede
- added workaround to Tools/Fitter.cc for getting the correct system ID
  of the calorimeter face (barrel and endcap) if run w/ lcgeo output (F.Gaede)
- -> depends now on DD4hep

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MarlinUtil v01-10
========================
  J.List
  - added helper function in CHT
    CHT::CaloType caloTypeFromString(const std::string& name)

  F.Gaede
  - fixes in MarlinCED
    - fixed warning -Wc++11-narrowing
    - draw inner and outer edge of FTD disks in wireframe

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Marlin v01-07
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  F.Gaede
  - introduced global flag: AllowToModifyEvent
    allowing to modify LCIO collections that have
    been read from an input file in the processEvent()
    method

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CEDViewer v01-10
========================

  T.Quast, RWTH Aachen

  - add DrawDetectorDD4hep
  - general detector (CLIC & ILD) drawing for the event display without GEAR
  - adapted ced2go to transparently use DD4hep if a compact file is given
    with -d instead of a Gear file
  - add option to ced2go to draw tracking surfaces from DDRec (-s)

  => depends now on DD4hep/Root

v01-09-01:
 - M.Petric:
    - updated ced2go template files for new CLIC simulation model