
Subject: new ilcsoft release v01-14
Posted by [engels](#) on Wed, 04 Jul 2012 16:08:15 GMT
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Dear all,

a new release of ilcsoft (v01-14) is available.

v01-14 is the production release to be used for the DBD simulation.

This release works with the current detector models

ILD_o1_v05
ILD_o2_v05
ILD_o3_v05

Main changes/features in this release:

- finalization of Mokka model for DBD production ILD_o1_v05
- some improvements in core tools
- some improvements and bug fixes for the new tracking code

Please refer to the Release notes below for more details.

Use the ilcinstall tool with the appropriate configuration files in order to install ilcsoft v01-14.

Reference installations in afs are available at:

`/afs/desy.de/project/ilcsoft/sw/i386_gcc41_sl5/v01-14 # SL5 32bit`
`/afs/desy.de/project/ilcsoft/sw/x86_64_gcc41_sl5/v01-14 # SL5 64bit`

Please report any problems and questions regarding this release in this forum.

The iLCSoft team.

Release Notes for v01-14

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New packages added in v01-14

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LCTuple : v01-00

Marlin package for creating simple ROOT TTrees with column-wise
ntuple structure using only arrays of basic types.

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Changes in v01-14 w.r.t. iLCSoft v01-13-06

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Mokka: mokka-08-00-02

- fixed small issue in HepLCIOInterfaceNew with comparison of double to 0.0
- started to address issue with MCParticles from calorimeter showers stored in LCIO file:
commented out SetToBeSaved() in Control::GetPIDForCalHit()
 - much less shower particles will be added
 - we still get neutrons that cause hits in other parts of the calorimeter use
/Mokka/init/lcioWriteParentsForBackscatter false
to activate new treatment (experimental - needs checking)
- TRKSiSD00 -- Corrected the storing of the MCParticle responsible for TrackerHits to reflect
the way it is done for the other tracking detectors.
It was previously following the old Calo style from which the code was originally
branched.
- TPC10 -- Corrected parameter reading for dz_Readout which was incorrectly read as
dz_Endplate,
which lead to a 75mm section of gas being placed behind the readout instead of

infront.

Corrected copy number of cathode, was 1 in places and should have been 0.

- ParticleGunGenerator -- Added Uniform Smearing for momentum over a defined interval, smearing values mean half the width.

-- Use /gun/momentumSmearingMode uniform

- SHcalSc03 : changed to slightly rounded outer edges in the barrel to follow the engineering model (Sh.Lu)

- the beamcal driver has been switched back to the new BeamCal08

- a 1mm air gap has been added to the AHcal

- switched back the treatment of MCParticles in the calorimeter to the old behavior, where parents of back scattered particles are stored...

- implemented services for internal detectors in all three options of ILD models

- changed thicknesses of Al beam pipe sections modeling services

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LCIO: v02-01-02
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- fixed short print out of MCParticle

- fixed warnings w/ unused variables (in function argument list)

- fix in LCStdhepReader.cc (B.Vormwald) for dealing with multiple 94 objects

- fixed typo in CPPFORT/lcmcp.h : lcmcpsetcolowflow -> lcmcpsetcolorflow

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GEAR: v01-02-02
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- new utility printMaterials to print material between two points

- added some debug printout to testMaterialBudgetNew.cc

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NOTE: Old config files (created by CED by save settings) are not longer readable, sorry!

New features (H.Hoelbe, DESY):

- split reset ced into two parts: reset everything (shortcut R), reset view (shortcut r)
- menu and popup menu expands now to left/top if right/button is not enough space.
- update the manual (not finished yet)
- Undo function is build in. (shortkey: 'u')
- Replaced the GLUT popup menu by a selfmade main menu drawn at the top of the window and a selfmade context based popup menu.
(The popup menu entrys depend on with object you click)
- It is now possible to pick detector components
- Marker which highlights the last picked object
 - Toggle this option in menu->graphics->picking marker. (Default option is off)

Menus:

- Popup/Main menu entrys now shown a little triangle at the right when they are have subitems
- Add a menu option with allows to change the text size
- Main menu now show current status of
 - axis visibility
 - layers
 - detector
 - transparency
 - projections
 - cuts
 - graphics settings
 - font size
 - fps
 - help
 - additionally the screenshot function show the pixel x pixel size of the image
 - New available cut values for angle and z-cut added to popup and main menu
 - Selecting a detector component by righclick now allows to change its transparency (>,<), cutangle (m,M) and z-cut value (z,Z)
 - Selecting the background allows to change transparency, cutangle, z-cut value for all components starting at the individual values of each component
 - Save/Load now saves the individual values for each detector component
 - popup menu now allow to change detector transparence and phi-cut exclusive for one specific layer
 - Layer menu now contains visible/not visible flag

- popup menu now contains data and detector layers too
- Add some of the normals to the draw detector function to improve lighting, still under construction!
- Layer description text is now shown in popup menu

Small changes (H. Hoelbe, DESY):

- X,Y,Z-Axis now always get drawn at the point (0,0,0) (not obligatory at the center of the detector).

I think this change will bring more overview when moving the detector and rotate it after this.

- shortcut help frame now changes color depending on background color
- It is now possible to decrease transparency by using the '<'-key to 0. (before it stops at an value of 0.05)
(transparency of 0.0 is special because at this value only the outline of the detector will drawn)
- In the DST viewer, a legend get drawn. Now the color of this legend will switch from white to black
when the background color is to light. (white letters on white background was not readable)
- Detector outline lines will now always set to no transparency. (default value in ced_config.h)
- arrow keys moves the detector:
 - arrow key left: z-axis,
 - right arrow: -z-axis,
 - up-arrow: y-axis, (new)
 - down-arrow: -y-axis (new)

Bugfixes (H. Hoelbe, DESY):

- layer visibility is now shown correctly in the menus
- layer description is now shown in the menus
- undo function is moved from shortkey 'u' to x or ctrl+z
- undo function now does not cause in strange behavior when pressing after startup
- save light settings
- screenshot with light
- load default settings
- toggle z and phi projection
- fixed picking problem (calculate the distance for each method in the same way)

- axis are now drawn always in the middle of the detector (enquired by frank)
- subsubmenu and submenu are now able to draw horizontal lines
- data and detector layer menus (main and popup) now shows the layer description
- workaround for mac - draw bogus GLUT menu
- Fixed bug in the picking line feature
- Shortcut frame: now works correct for diverent font sizes
- Popup menu now supports subitems
- Popup menu for detector components now shows phi-cut submenu
- Removed compiler warnings
- Reset CED (shortcut: 'R'): Now also reset light and the visibly of the axis
- Save function now also store the position, picking marker and detector picking.
- Fixed an issue with the popup menu.

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 CEDViewer : v01-05-02
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- fixed FTD hit collection names
- draw all tracks and clusters for recoparticles.

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 KalDet: v01-09
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 - Re-worked MaterialDataBase registerForService will need to be called at least once, triggering initialisation from the gear manager, subsequent calls will check that the gear managers are the same as those which was used to initialise.
 - VXD support material added.
 - Optimisation of Debug verbosity.

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 MarlinUtil: v01-05-03
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- fixed drawing of Hcal endcap (outer radius in gear file)

- fixed uninitialised variables

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MarlinReco: v01-02-01
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- added option to enable/disable output of root file containing histograms to BCalReco.cc (T.Tanabe)
- fixed SIT parameters (new ZPlanarParameters) in KinkFinder.cc (F.Gaede)
- use streamlog for messages in EventShapes and SatoruJetFinder packages (T.Tanabe)
- Analysis/RecoMCTruthLink: Corrected track <-> mcparticle weight regarding space points, nhits+=2.
 - Reduce verbosity levels on MESSA GE.
- Analysis/CLICPfoSelector: corrected logic to stop ihit90 index becoming negative.
- removed/fixed several compiler/linker warnings

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MarlinTrk: v01-07
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- HelixFit
 - Correct pass by reference in argument list
- MarlinTrkUtils
 - laced definition of finaliseLCIOTrack in header making it publicly available.
 - Corrected track state at first and last hit.
- Improved Diagnostics.

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MarlinTrkProcessors: v01-06
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General: Removed use of sort predicate. Use sorted list of std pairs instead.
Use `_maxChi2PerHit` in fits.

FullLDCTracking_MarlinTrk: Corrected uninitialised covariance matrix in combine tracks method.

TruthTracker: Added new mode to fit tracks iteratively, off by default. Allow the CED event display to be used during track creation.

For the iterative mode split Tracks now have the individual segments added to a separate collection.
These segments are used to produce a combined track which uses the innermost and outermost segments to provided the track states at the IP, FirstHit, LastHit and Calo respectively.
The combined track is added to the main track collection, the NDF and chi2 are set with the values from the innermost segment.
The NDF and chi2 values for the other segments can be retrieved from the tracks added to the composite track.

Hits with no MCParticle are discarded.

SiliconTracking_MarlinTrk: Added protection against being overwhelmed by a very large number of

hits within one sector.
The default is set to 100. For now an ERROR message is printed and SkipEventException thrown.
This will be removed when the problem is more properly addressed.
Make sure sort predicate for chi2 fulfils strict weak ordering.
Fixed problem where using return instead of continue caused loss of all fitted tracks when single track fit failed.

SpacePointBuilder: Corrected SpacePoint creation bug. Endpoint of rear strip swapped with endpoint of front strip. Added debug output for checking whether a strip is created from a real combination or ghost combination.

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Clupatra: v00-07-01
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- added code to merge split tracks seeds - this happens sometimes if one link of a track seed is just a bit further than the current distance cut (artefact of loops with increasing distance cuts)
- introduced parameter CosAlphaCut and merge hits from consecutive rows if their angle is smaller than $\text{acos}(\text{CosAlphaCut})$
-> helps to recover some stiff tracks in forward region
- added parameter NLoopForSeeding (default 4)
defining the number of loops for seeding with different distance cuts
- restrict segment merging to two segments at a time in order to prevent falsely merging almost complete tracks (through a small 'common' stub)
- repeat this procedure once in order to get also tracks split into three
- use track state at first hit also for outward extrapolation as this is more accurate when merging segments

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LCFIPlus: v00-05
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- vertex-assisted jet clustering now adjustable with vertex pairing penalties
- flavor tagging input variables added
- can apply preselections to samples used in training

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KiTrack: v01-02
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- Automaton: Added a counter of the connections between the segments

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KiTrackMarlin: v01-02
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- Added FTDHelixFitter class, to fast fit a track with the HelixFit class from MarlinTrk

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ForwardTracking: v01-05
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- TrackingFeedbackProcessor:
 - + Added output of theta and nHits of true tracks to root output (so one can plot efficiency over theta or nHits)
 - + Added output of mcp vertex position to root file
- ForwardTracking:
 - + Added a HelixFit before the Kalman Fit to increase the speed
 - + Nested the CA inside a while loop, repeating it with tightened cut until not too many connections are made.
 - Also added the steering parameters for that
- TrueTrackCritAnalyser: Added saving of chi2, Ndf and chi2/Ndf from helix fit to root file

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Overlay: v00-11-02
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- bug fixed in Merger.cc - undo the unnecessary comment out
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