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Subject: new iLCSoft release v01-15-02  
Posted by [gaede](#) on Tue, 25 Sep 2012 17:51:57 GMT  
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Dear all,

a new release of iLCSoft (v01-15-02) is available.

The reconstruction software in this release should be close to the final DBD reconstruction version.

Please refer to the Release notes below for more details.

Use the ilcinstall tool with the appropriate configuration files in order to install ilcsoft v01-15-02.

Reference installations in afs are available at:

`/afs/desy.de/project/ilcsoft/sw/i386_gcc41_sl5/v01-15-02 # SL5 32bit`  
`/afs/desy.de/project/ilcsoft/sw/x86_64_gcc41_sl5/v01-15-02 # SL5 64bit`

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

The iLCSoft team.

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Changes in v01-15-02 w.r.t. iLCSoft v01-15-01  
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LCIO: v02-03  
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- added new flag bit to simulator status word:  
MCParticle::BITOverlay=23 and methods  
MCParticle::isOverlay()  
MCParticle::setOverlay(bool v)

- print as 'o' in LCTOOLS/Operators
- added new methods (in C++)
  - LCReader::getRuns(EVENT::IntVec & runs) and
  - LCReader::getEvents(EVENT::IntVec & events)
 that return the run and event numbers in a given file
  - to be used in randomly reading events for bg overlay
  - implemented in SIORReader
  - minimal testing in test\_randomaccess.cc
- in Operators.cc:
  - print covariance matrix as lower triangle matrix for Track and TrackState
  - added GoodnessOfPID to dumpe of ReconstructedParticle
- changed the gnu jel dependency in pom.xml to 2.0.1 from 0.9 plus small change in SIODump.java
- added example cpp/draw\_event: displays one event in ROOT-UGL and writes ascii file
- made UTIL::LCIterator<T> compatibel with gcc 4.3.2 (#include <typeinfo>, reported by M.Killenber)

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Marlin: v01-04
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- added EventSelector processor
  - use Marlin -x and uncomment lines with EventSelector and <if> and specify run and event number in MyEventSelector
- bug fix: call Global::EVENTSEEDER->refreshSeeds( evt ) ; also for modifyEvent() which is needed for BG Overlay
- prevent implicit copy c'tors and assignment operators for Processors

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MarlinReco: v01-04-01
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- fixed TPCDigiProcessor :
  - added bfield correction factor to point resolution  
( 4.0 / bField )
- BCalRec (A.Rosca)
  - cleaned up code (removed unnecessary code)
  - introduced new default bg map file
  - enclosed code with  
    if( nHits > 0 ) {...}
  - in order to prevent warning about missing CellIDEncoder string
- fixed indentation of code (fg, using emacs defaults) (r4088)  
    No code change, i.e. same code as r4087 (use this for diffs)
- BCalTagEfficiency (J.List)
  - verified unchanged performance on Lol samples (modulo a bug fix); steering flag for  
    map format added

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 Clupatra: v00-09-01  
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- in TrackCircleDistance::operator():  
    adapted to fix in KalTest where curler segments  
    now have correct Z0 (typically close to the IP)
- do not merge segments if the z-positions of  
    both their first hits is within 20 mm of the  
    IP
- changed LCIOTrackConverter::operator() to use the  
    first constrained fit ( ~= 3rd hit) smoothed to extrapolate  
    back to the calorimeter
- fixed issue in ClupatraProcessor::check() when no  
    TPCTrackerHits are present ( using LCIterator )
- moved local LCIterator to LCIO as UTIL::LCIterator  
    use this in all processors
- updated to use new PlanarDigiProcessor

(was: SimplePlanarTestDigiprocessor )

- fixed coverity issues: mostly uninitialized c'tor, some unchecked dynamic\_casts and division by zero (nhit++)

- deactivate pick'n save feature  
(#define WRITE\_PICKED\_DEBUG\_TRACKS false)

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Overlay: v00-13  
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- changes in Overlay processor:

- updated to use MCParticle::setOverlay()
- added method Overlay::readNextEvent() to properly read the next event - either with direct access (only one input file given ) or with skipNEvents
- fixed logic to ensure same event gets same overlay events - regardless of SkipNEvents parameter

- changes to OverlayBX processor:

- switched to use Global::EVENTSEEDER mechanism for reproducible random numbers
- introduced namespace overlay in all classes
- removed using namespace from header files
- added propset Id

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MarlinTrk v01-10  
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- General
  - Made Debug output more consistent

- MarlinKalTestTrack
  - Changed smooth() to do \_kaltrack->SmoothAll(), previously \_hitIndexAtPositiveNDF + 1
  - Corrected orientation regarding transporting inwards or outwards in propagate.
  - Fixed problem where initial covariance term kappa,tanL wrongly set as kappa,z0. Minimal impact expected. (Tino Calancha)
  - Ensure that hits which are rejected for reasons other than Chi2 cut are added to the list of outliers.

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KalTest v01-05-01
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- Fixed orientation for in/out transportation in TKalDetCradle, previously only inward transportation was correct.
- Ensure that material effects are treated correctly by only including material effects from present surface to destination surface.
- THelicalTrack:MoveTo modified to make sure the helix really moves to the new reference point and is not out by more than 2PI.

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KalDet v01-10
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- ild
  - Reduced the tolerance for the is on surface to 1micron in ILDCylinderMeasLayer.
  - Corrected sign of phi in CalcXingPointWith. ILDDiscMeasLayer, ILDSegmentedDiscMeasLayer, ILDParallelPlaneMeasLayer.
  - Added necessary mode check for determining intersection correctly based on the direction of travel, i.e. forward or backward mode =+1 or -1
  - ILDConeMeasLayer, ILDDiscMeasLayer, ILDPolygonBarrelMeasLayer, ILDSegmentedDiscMeasLayer, ILDParallelPlaneMeasLayer.

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Release notes from iLCSoft v01-15-01  
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iLCSoft release for running final tests before starting the DBD reconstruction.

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Changes in v01-15-01 w.r.t. iLCSoft v01-15  
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LCIO: v02-02  
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- added new class LCIterator<T> for convenient loops over collections, e.g.:

```
for( LCIterator<Track> it( evt, "Tracks" ) ; Track* trk = it.next() ; ) {  
    std::cout << trk->getTrackState( TrackState::AtIP ) << std::endl ;  
}
```

- added small test/example to ./src/cpp/src/TESTS/test\_tracks.cc

- Operators.cc: fixed scientific format for Track/TrackState

- changed TrackState (convenience) copy constructor argument type to reference instead of pointer

- fixed potential memory leak by adding Track's assignment operator (c++ rule of three)

- added LCIO\_JAVA\_USE\_MAVEN option to build Lcio.jar library using maven

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MarlinTrk: v01-09  
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- General
  - Made Debug output more consistent
- IMarlinTrack
  - Moved constant definitions of return codes outside of the header file.
  - Added additional error return, for the case where no site are filtered when calling fit.
- MarlinKalTestTrack
  - Prefer translation over rotation of the trackstate early in the fit, when using simple helix initialisation
- MarlinTrkUtils
  - Use EVENT::TrackState in place of IMPL::TrackStateImpl where appropriate.
  - The TrackState for the initialisation can be at any reference point.

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MarlinTrkProcessors: v01-07  
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General:

- Debug output has been made more consistent throughout.

FullLDCTracking\_MarlinTrk

- Use existing tracks parameters when refitting.
- Updated for new Icio TrackState copy constructor taking const reference.

TruthTracker

- Updated for new Icio TrackState copy constructor taking const reference.
- Corrected Helix orientation for pre-fit.

## RefitProcessor

- Corrected Helix orientation for pre-fit.
- Protect against missing truth relations.

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Clupatra: v00-09  
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- apply a refit with larger maximum chi2 increment to tracks that have only a small number of hits used (IMarlinTrkFitter::operator())
- drop poor seed clusters with no hits added except in the very forward (inner) region
- clupatra\_new: added optional argument TrkSystem\* to addHitsAndFilter(); if given, the smoothed TrackState is used for backward extrapolation; => not currently used, i.e. the last filtered TrackState is used ( this should give better results than the previous version that used the filtered TrackState at the 4th hit )
- don't set quality bit on tracker hit: ILDTrkHitQualityBit::USED\_IN\_FIT anymore, as this won't work on pre-digitized files (and is not unique wrt other pat rec code)
- added DebugDigiProcessor :  
takes TrackerHits from a collection of Tracks (e.g. previously written as ClupatraPoorTrackCollection ) and writes them into new Collections ( according to subdetID )  
-> see ./example/clupa\_debug.xml
- added debug method printAndSaveTrack() to Clupatra:  
allows to store a collection of Tracks selected through picking in CED
- added doxygen documentation of parameters in ClupatraProcessor.h
- Updated for new Icio TrackState copy constructor taking const reference.

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CEDViewer: v01-06

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- removed TrackerRawViewer
  - lives now in MarlinTPC
  - CEDViewer no longer optionally depends on MarlinTPC nor LCCD

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MarlinTPC: v00-10

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- + added namespace pathfinder to package pathfinder, changed interface processor accordingly
  - + removed deprecated files
  - + added ced viewer extension for raw data as its own directory: resolves double dependency problem
    - ! breaks current ilcsoft installation with ced viewer -> use head version of CEDViewer
  - + changed and cleaned CMakeLists.txt file accordingly

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PathFinder: v00-02

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- + introduced namespace pathfinder -- breaks backwards compatibility (!)
- + removed obsolete files
- + minor cosmetic changes

