

JRA2 Software Status

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Motivation

- Many different TPC software packages on the market
- They use different programming languages, data formats, units, coordinate systems, etc.
- Exchange of code and data cumbersome and error-prone
- Waste of very limited resources and makes comparisons difficult

MarlinTPC

- Project started to establish common TPC software based on LCIO data model and the Marlin analysis and reconstruction framework (see <http://ilcsoft.desy.de>)
- C++ programming language
- Modular design with well defined interfaces between modules (beyond what is already fixed by LCIO)
- Standards agreed upon by 6 TPC groups in a TPC software meeting at DESY in June 2006

MarlinTPC Web Site

MarlinTPC — ILC Software Portal - Mozilla Firefox

http://www-ipc.desy.de/ilcsoft/ilcsoftware/marlintpc/psc_project_view

ILC
soft

kleiner text normaler text großer text

suche

startseite nachrichten

sie sind nicht eingeloggt. log in mitglied werden

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einloggen

Benutzername

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Fertig

http://ilcsoft.desy.de

MarlinTPC

Category: Reconstruction software — Other products by this author

Marlin based reconstruction and analysis code for the TPC.

Project Description

The goal of this project is to get a highly modular reconstruction and analysis framework for TPC R&D with standardized interfaces between its modules. This ensures that despite of the large diversity of readout structures, electronics, amplification system, etc. much code can be shared among the groups and that different algorithms developed by different people or data taken by different groups can be easily compared.

MarlinTPC is supposed to become an implementation of the TPC data model as described in [this document](#) (note that this is an early draft which might be subject to changes in the future). At present the code is still at an early stage of development and probably only of interest to code developers. But this will change. ;-)

To check out the latest development version follow the instructions on [this page](#).

Document describing data model

Repository

Additional resources


- Releases
- Contact address
- Support
- Development repository

erstellt von: admin
Zuletzt verändert: 2006-07-27 20:24

MarlinTPC Repository

MarlinTPC/ - Mozilla Firefox

http://www-zeuthen.desy.de/lc-cgi-bin/cvsweb.cgi/MarlinTPC/?cvsroot=marlintpc

Powered by  **APACHE**

MarlinTPC/ Hosted by **DESY**

Click on a directory to enter that directory. Click on a file to display its revision history and to get a chance to display diffs between revisions.
To download this directory as zipped tarball - click on tarball at the bottom of this page.

Current directory: [\[marlintpc\]](#) / MarlinTPC

File

- [Parent Directory](#)
- [\[analysis/\]](#)
- [reconstruction/](#)
- [simulation/](#)

Download this directory in [tarball](#) or [zip archive](#)

General options

Sort files by: , case-insensitive: Hide files in Attic:

Sort log by: Show line numbers:

Diff format:

FreeBSD-CV\$web <frebsd-cvsweb@FreeBSD.org>

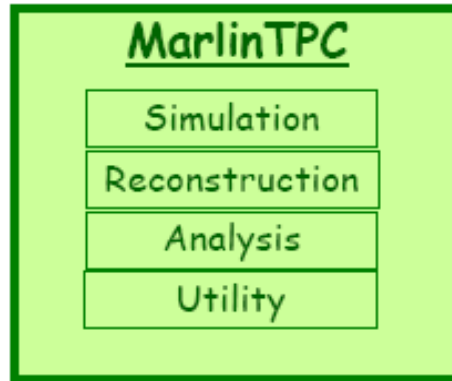
http://www-zeuthen.desy.de/lc-cgi-bin/cvsweb.cgi/MarlinTPC/analysis/?cvsroot=marlintpc

GEAR and LCCD

- GEAR: geometry API
- LCCD: conditions data toolkit
- “Static” information (pad geometry, readout frequency, etc.) stored in GEAR files (XML)
- Data subject to changes during data taking (drift velocity, voltages, B field, calibration data) stored using LCCD

Packages

- Four groups of code:



- Currently focus on reconstruction and analysis part
- Trying to recycle existing debugged code as much as possible

Processor structure

Data structure	Processor name	input/output collection name
TrackerRawData		TPCRawData
	TrackerRawData2DataConverter	
TrackerData		TPCConvertedRawData
	PedestalSubtractor	
	ChannelByChannelCorrector	
	LinearityCorrector	
	TimeShiftCorrector	
TrackerData		TPCData
	PulseFinder	
	ChannelMapper	
	GainCorrector	
TrackerPulse		TPCPulses
	HitFinder	
	HitPRFCorrector	
TrackerHit		TPCHits
	TrackFinder[Method]	
Track		TPCSeedTracks
	TrackFitter[Method]	
Track		TPCTracks

More Details ...

Write-up of module partitioning and interface specifications

Proposal for an ILC TPC data stream

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Abstract

This document proposes a TPC data flow model for use during ILC detector R&D studies. It is based on LCIO data structures and Marlin as analysis and reconstruction framework.

Summary and Outlook

- Agreement achieved and documented (not fully completed yet) on what toolkits to use, how to use them and the connections between them
- Standards allow flexibility and easy code and data exchange for comparisons
- Experts from various groups are currently implementing processors
- First processors available in CVS repository
- More to come in the upcoming months