



# TrigSim Status

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# Agenda

- News/Status - Dugan (15)
- L1Muon - Pete Johnson (10)
- L1Cal - Josh Kalk (20)
- L1FRM - Josh Kalk (10)
- L2 - Adam Yurkewicz (15)
- L3 - Jon Hays (20)
- A.O.B

# Intro

- Trigger simulations are housed in d0trigsim package. Contacts are Serban and Dugan
- Documentation is at

<http://www-d0.fnal.gov/computing/trigsim/trigsim.html>

- Cookbook:

```
setup n32 (d0mino only) -|
setup D0RunII release_no |
setup d0tools | generic stuff
```

```
runD0TrigSim -nocoorsim -filelist=myfiles.dat
```

# News: docs

- Ntuple docs on trigsim webpage (Thanks Joel Piper!)

A guide to the trigger simulator's rootuple <http://www-d0.fnal.gov/computing/trigsim/general/docs/ntuple.html>

## The Contents of the Trigger Simulation Rootuples

<a href="#">L1Cal</a>	Package is l1cal_analyze
<a href="#">L1Cal_Debug</a>	Package is l1cal_analyze
<a href="#">L1frm_Specific_Trigger</a>	Package is tsim_l1frm
<a href="#">L1FT_Level1_Sim or L1FT_Level1_Dat</a>	Package is <a href="#">l1ft_analyze</a>
<a href="#">L1FT_Level2_Sim or L1FT_Level2_Dat</a>	Package is <a href="#">l1ft_analyze</a>
<a href="#">L1FT_Trigterms_Sim or L1FT_Trigterms_Dat</a>	Package is <a href="#">l1ft_analyze</a>
<a href="#">L1FT_bboardTT_Sim or L1FT_bboardTT_Dat</a>	Package is <a href="#">l1ft_analyze</a>
<a href="#">L1MuonMTCC_Sim</a>	Package is tsiml1muo
<a href="#">L1MuonMTCN_Sim</a>	Package is tsiml1muo
<a href="#">L1MuonMTCS_Sim</a>	Package is tsiml1muo
<a href="#">L1MuonMTM_Sim</a>	Package is tsiml1muo
<a href="#">L2calem</a>	Package is l2calemworker
<a href="#">L2caljet</a>	Package is l2caljetworker
<a href="#">L2calmet</a>	Package is l2metworker
<a href="#">L2gblEM</a>	Package is l2gblem
<a href="#">L2gblHead</a>	Package is l2gblworker
<a href="#">L2gblJet</a>	Package is l2gbljet
<a href="#">L2gblMuon</a>	Package is l2gblmuon
<a href="#">L2gblTrack</a>	Package is l2gbltrack
<a href="#">L2CTTCFT</a>	Package is l2cttcf_t_analyze
<a href="#">L2CPS</a>	Package is l2cps_analyze
<a href="#">L1_5SLIC</a>	Package is <a href="#">l2mu_analyze</a>
<a href="#">L2MU</a>	Package is <a href="#">l2mu_analyze</a>
<a href="#">L3J, L3KT</a>	Package is <a href="#">l3fjettools</a>
<a href="#">L3E, L3E2, L3EG</a>	Package is <a href="#">l3femtools</a>
<a href="#">L3DebugJ, L3DebugKtJ</a>	Package is <a href="#">l3fjettools</a>

# News: Release Procedures

- Production releases have traditionally taken too long to converge
- Manpower too limited to debug broken production release and broken test releases at the same time.
- Ugly cycle: look only at buggy production makes test release of poor quality makes next production release buggy....

# News: Release Procedures

- Solution: push hard to make test releases work every week and hope that production releases become much quicker.
- Release requests must be in by 9am Monday for test release, noon for production pass release.
- Webpage with current status of test release has been created, linked from trigsim home.

## Trigger Simulator Test Release Status

Do you really want to be here? Only developers should really care about this page. Users attempting to process large numbers of events should be looking at the latest production release status.

This page should at least show the new packages released on Monday of each week and the major improvements from one release to the next. Hopefully it will also contain a word or two about how things turned out at the end of the week.

### • 02.05.00 (02/11/02) -

#### • Status

#### • Improvements/Release notes

1. L1munon is very close to being completely done....
2. L2munon adds ROOT macros
3. first release of L2gblbase package to resolve online dependency problems
4. L2stf

The release has been tested on single munon files, qed files (low and high mean minimum bias), higgs and Z to munon files and found to give results that are not entirely crazy!

L2stf\_fitting - This incorporates Wendy's modifications.

L2stf\_analyze - The root tuple includes blocks for L1 CTT tracks, SMT channels, L2 STT clusters, L2 STT tracks and L2 STT tracks.

L2stf\_util - Includes code for test vectors in two sets of formats: one set for John and the other for Meena, settable with an RCP switch in ism\_L2stfrcp.

ism\_L2stf - Lots of tidy up, general improvements etc.

#### 5. Package Versions Submitted

```
ism_L1muo v00-99-00
L2muo_analyze v00-02-01
L2gblmunon v00-01-08
L2slc_tables v00-00-84
L2gblgenerate v00-02-13
L2ctctfworker v01-11-13
L2gblhem v00-03-22
L2gblworker v00-07-00
L2gblref v00-03-11
L2gbltrack v00-00-04
L2gbl_analyze v00-04-09
L1muon_analyze v00-99-00
L2gblbase v00-00-29
L2stf_L2stf v00-00-29
L2stf_analyze v00-03-14
L2stf_fitting v00-00-29
L2stf_util v00-00-29
.....
L3ged_vertex v00-02-00
ScriptRunner v00-07-15
IRCALCalTool v00-02-05
L3stepump v00-02-21
```

### • 02.04.00 (02/04/02) -

- Status sam\_mngr is still hosed. L2stf is broken. L2ctctfworker is broken. More recent tags of ism\_L2 and L2ctctfworker will fix these, removing sam\_mngr from the binary dependencies will fix that.
- Improvements/Release notes
  1. L2buffer removed from the release. Dependencies removed from several packages. L2buffer is now online-only. It has been replaced in ism\_L2 by a special simulation-only buffer class housed in L2io.
  2. first release of L1cal\_examine
  3. trigger bit decoding added for online L2
  4. new code generation script to put package versions in data
  5. ism\_L1muon: Input Data blocks, TOF cuts on scints, two PMTs in Central C-Layer Scints.
  6. L2slc\_tables: removed PIXEL-only tables; were incorrectly being overwriting proper tables in simulator (resulting in DetPhi being reported with a wrong shift of N x Phi/2)

# News: Release Procdures

# Status: Production Releases

- p10 basically unchanged since p10.12.00 (adjust to reco interface change). p10.14.00 should work....but I have stopped testing
- p11 is complicated:
  - L1 is fine. Many functionality improvements, very useful
  - L2 runs without crashing. Improper byte-swapping, data is garbage. Hard to fix. Not in sync with data.
  - L3 is the same version which we are now running online

# Status: Production Releases

- How do we fix L2 in p11?
- Major infrastructure has diverged from p11. No easy patch.
- In March (4 or 11?) backport test release tags of ALL L1/L2 packages.
- Consequence: p11 will change radically from one pass release to the next. Broken packages likely.
- Benefit: Within 3-4 weeks we will have a working trigsim which runs on L1, L2 or L3 real data. Release control for online L2.

# Reco + Trigsim

- Popular question: “How do I get reco and trigsim stuff in the same ntuple?”
- Gets MUCH easier with backport to p11. Now all L1/L2 analyze packages can run outside simulator.
- Run d0trigsim with “write” rcp and evpack file comes out. Run d0analyze on output file.

```
runD0TrigSim -nocoorsim -filelist=myfiles.dat  
-rcp=runD0TrigSim_write.rcp -localfwkrcp
```

```
rund0analyze -filelist=my_trigsim_outputfiles.dat
```