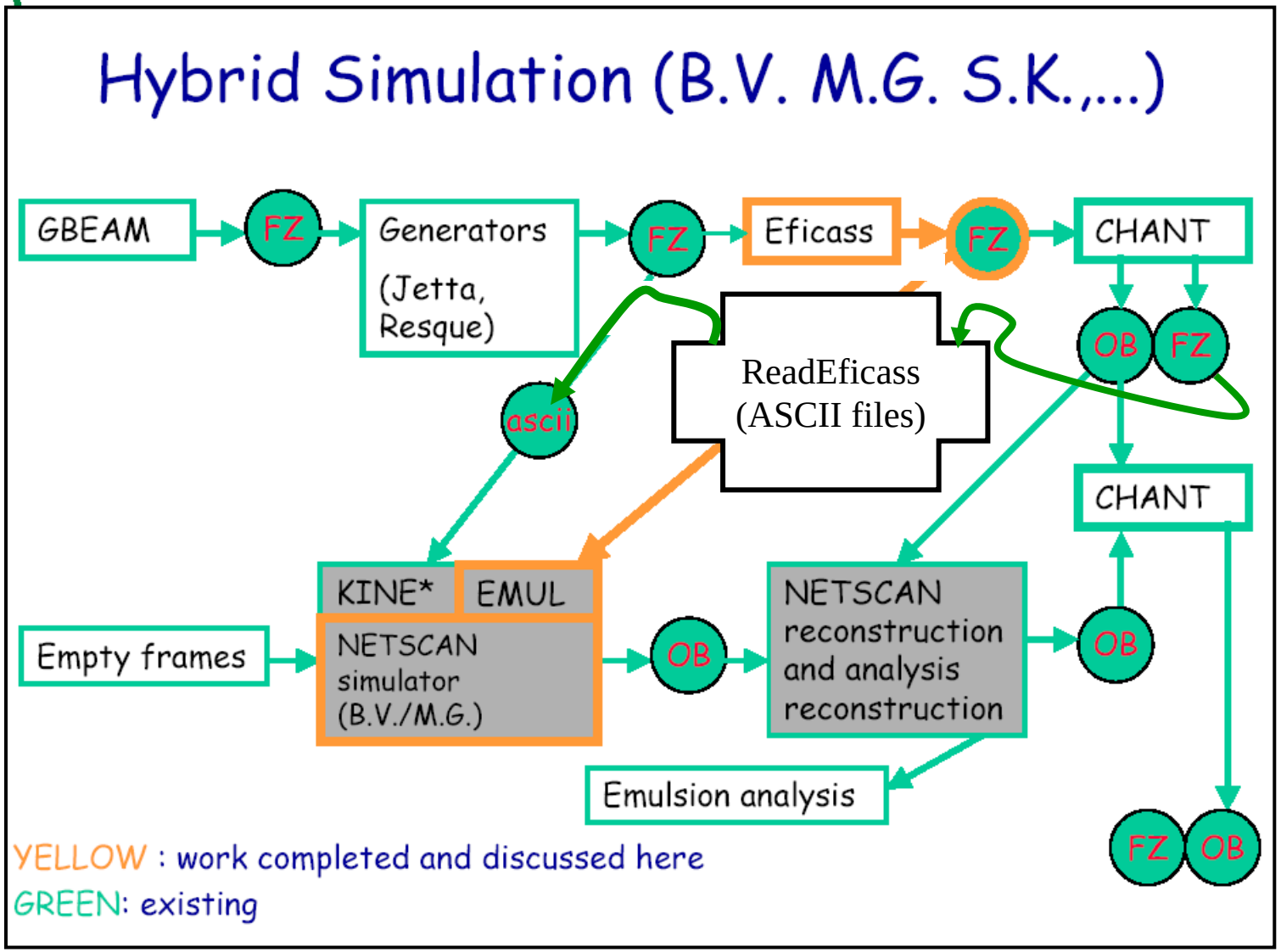
Hybrid Simulation Chain

CHORUS Collaboration meeting

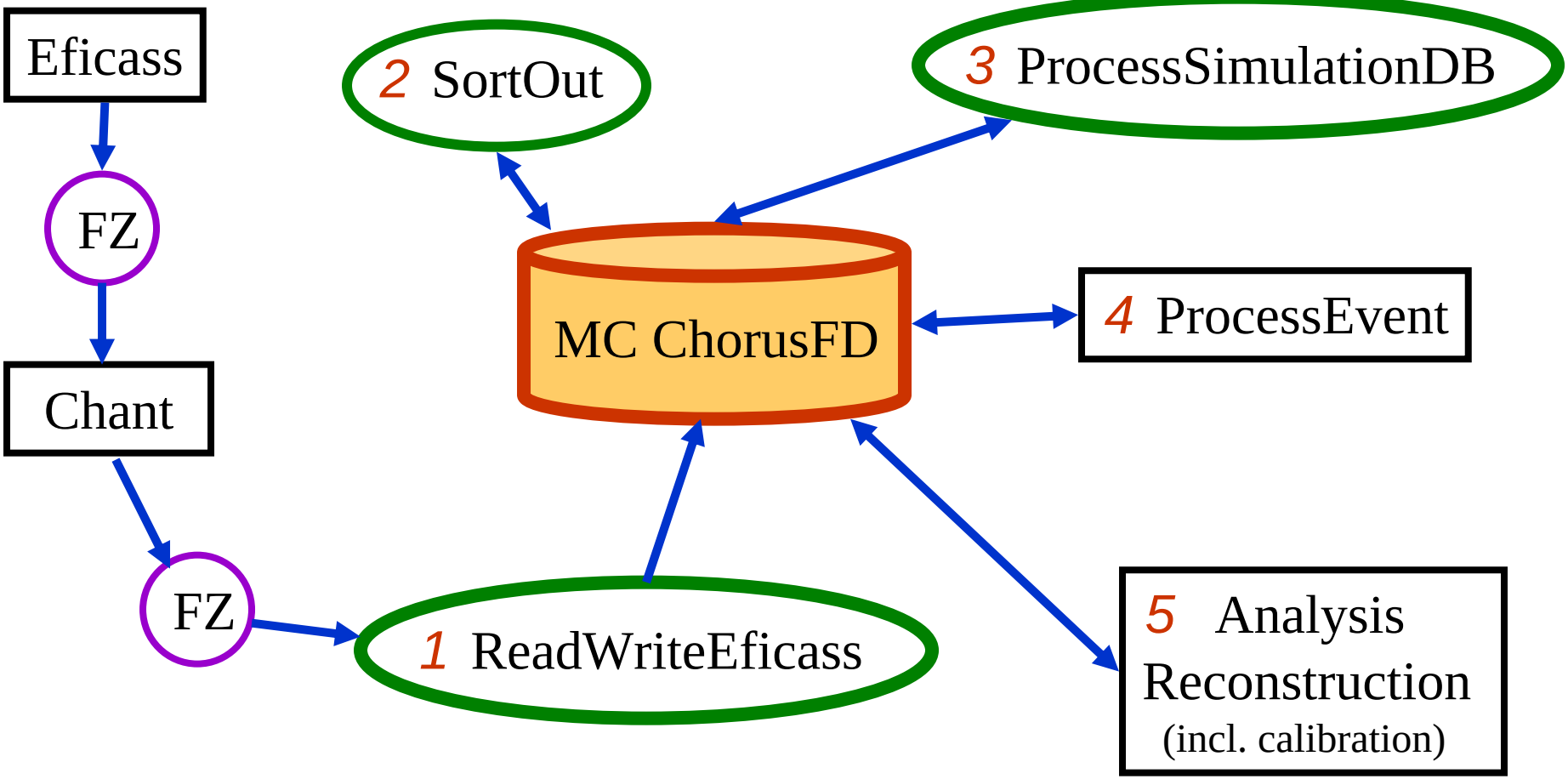
CERN, 20-22 November 2002


Hybrid Simulation (B.V. M.G. S.K.,...)
GBEAM
FZ
Generators
(Jetta, Resque)
FZ
Eficass
FZ
CHANT
OB
FZ
ascii
ReadEficass
(ASCII files)
CHANT
KINE*
EMUL
NETSCAN simulator (B.V./M.G.)
Empty frames
OB
NETSCAN reconstruction and analysis reconstruction
OB
Emulsion analysis
FZ
OB
YELLOW : work completed and discussed here
GREEN: existing

Hybrid Simulation Chain
Stages

- Set up specialized objectivity™ federation for simulated events
- Dispose of intermediate ASCII files
- Load Eficass generated Chant processed charm events in that Objy federation
- Pass loaded events through adapted NetScan processing and analysis procedure, including calibration
- Commit for public use

Hybrid Simulation Chain
Chart Flow



NetScan simulation

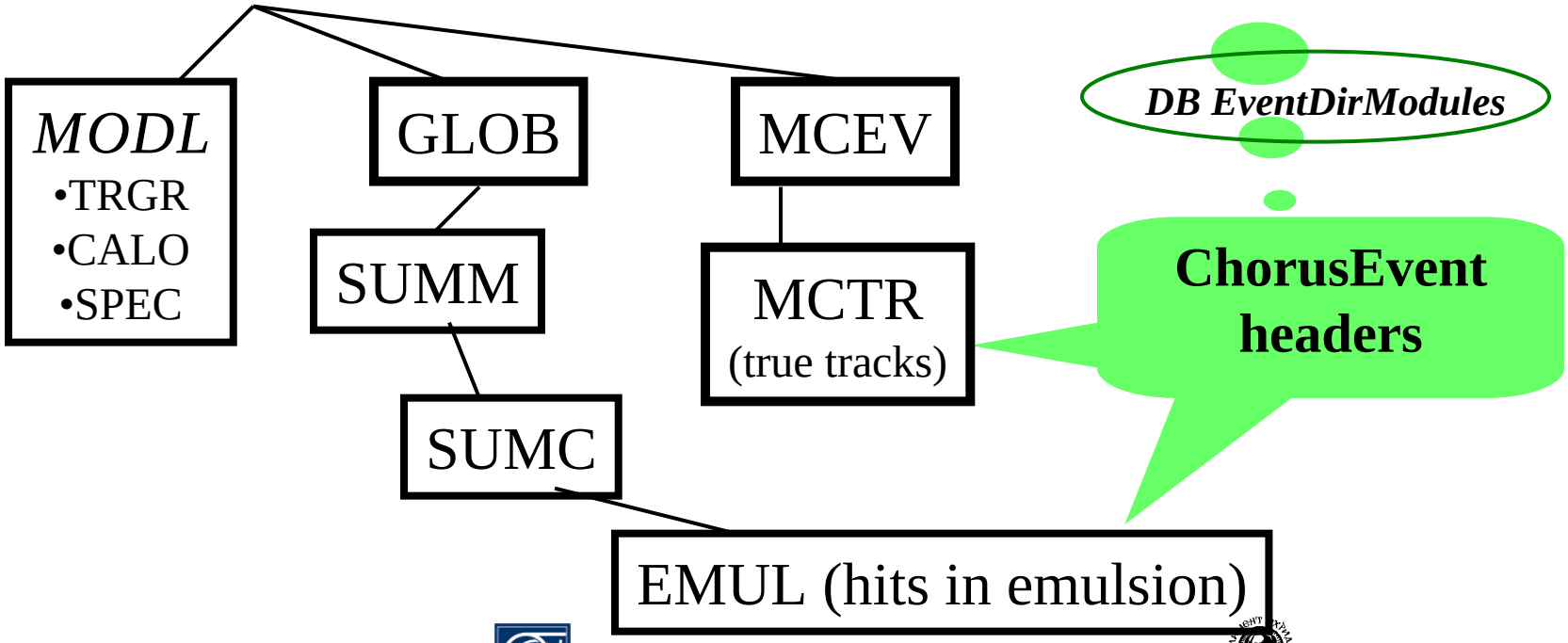
ReadWriteEficass

writes in FDB:

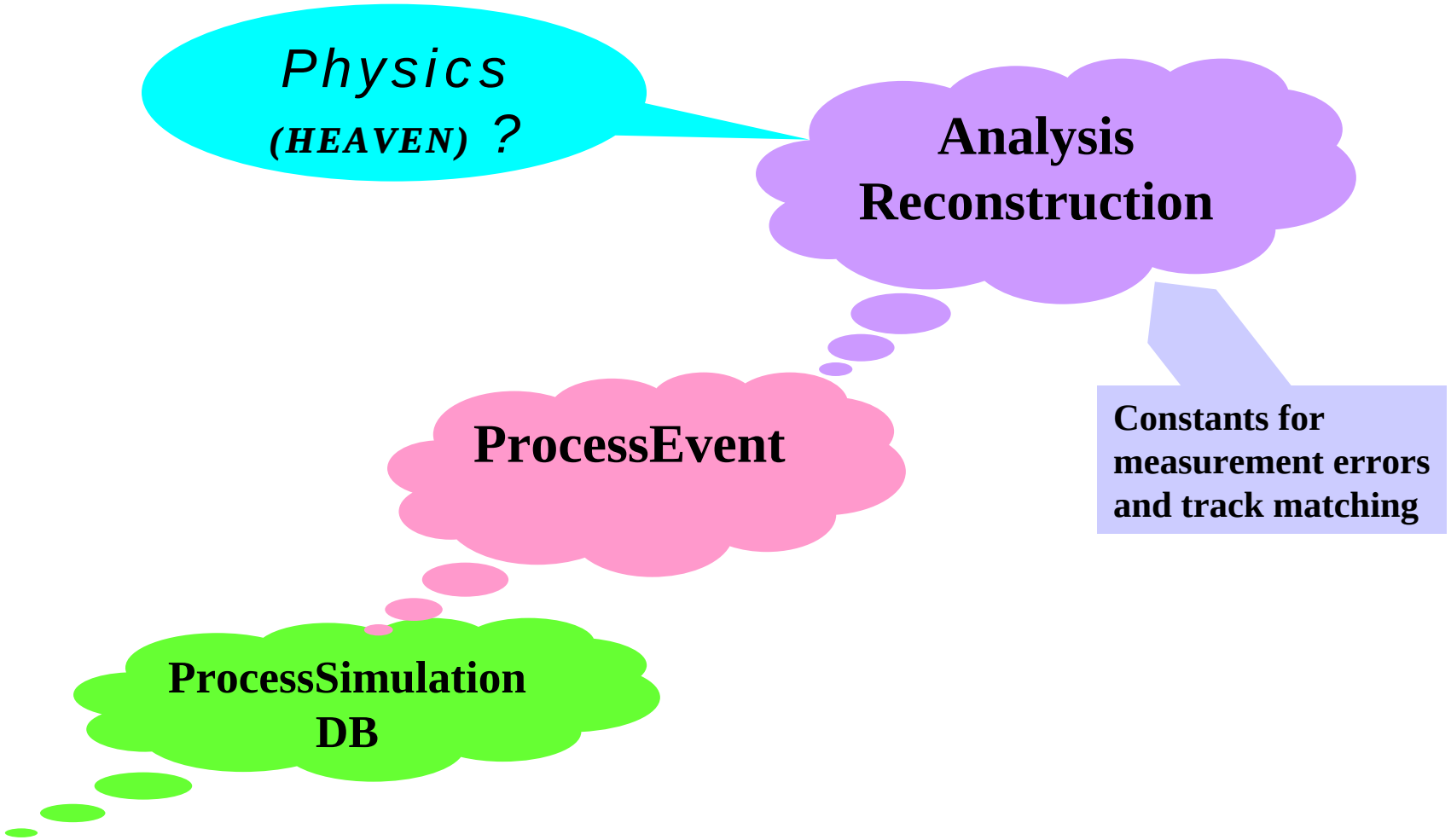
- ChorusEvent headers
- EVNT Zbank ***mini+*** tree

Process Simulation DB

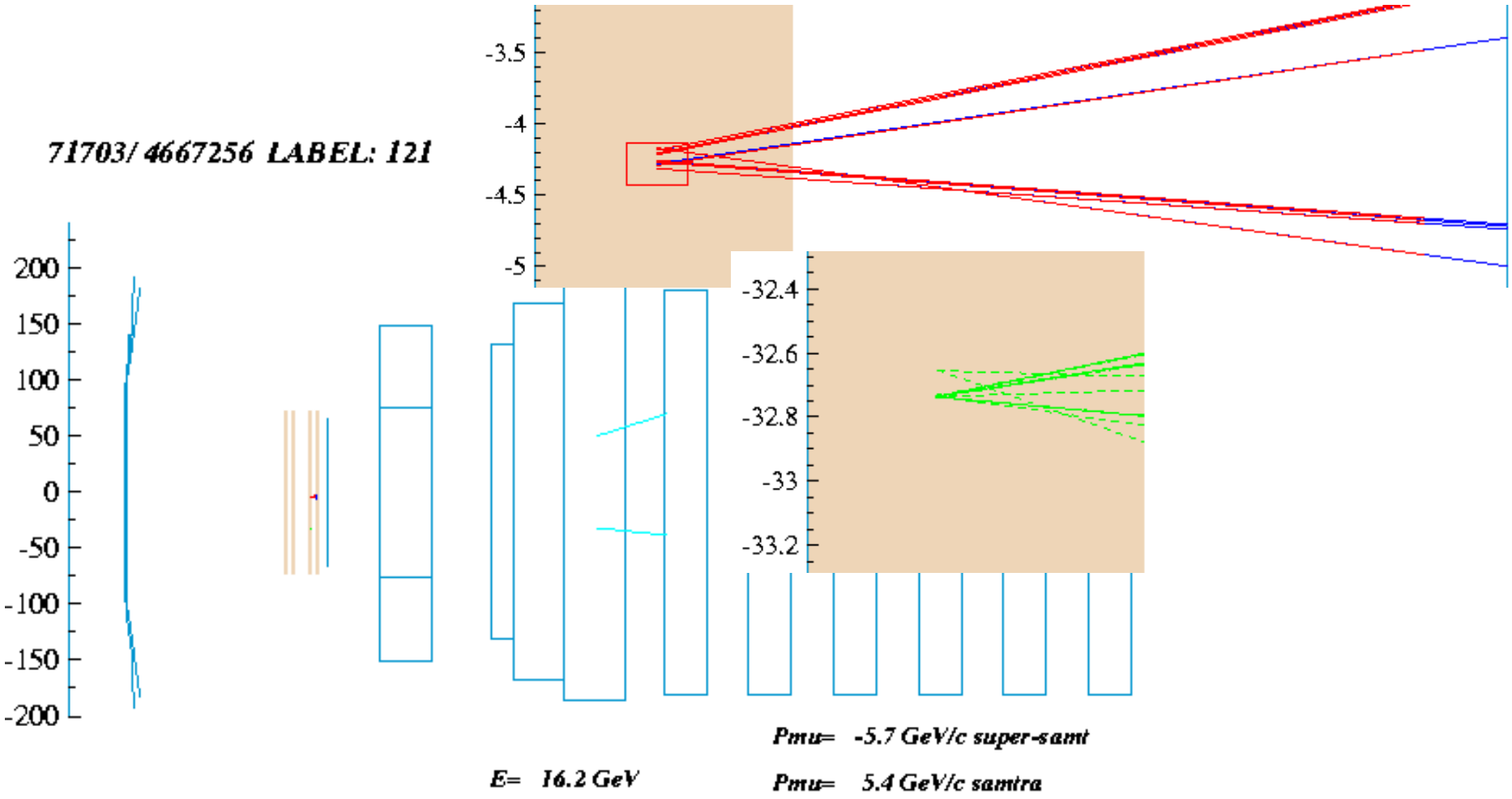
(two branches)



Rest of the chain is standard



TV_SHOW event



Events available

Eficass generated Chant processed CC DIS events with c-quark in final state and primary vertex in emulsion sheet, loaded in MC ChorusFD: 9368

Events are spread over 64 (half) modules. Modules passed full chain: 16

(pulse height data for simulation were available only for them)

DATA Volume

Chant data: 0.72 *Mbytes/event*

NetScan data: 1.48 *Mbytes/event*

Altogether: 2.15 *Mbytes/event*

Chant events already available: 6 times more...

“to do” list for next 3-4 weeks

- **Migrate all DB files to CASTOR.**
- **Test results on meaningfulness.**
- **Modify the code (event generator) for using stage-oriented pulse height data tables (now module-oriented).**
- **Speed opimization.**
- **Process events in all modules, already NetScan-ed, including links setting for Chant access.**
- **Compare with real data.**
- **Write some documentation…**

Summary

- **Objectivity™ federation for Eficass + NetScan simulated events has been set up.**
- **Code for storing, retrieving and processing data has been tested and committed (in CVS modules chorusdb and emulsion/netsac-analysis).**
- **Federation has been populated with ~ 10 k events and ¼ of them fully processed.**