

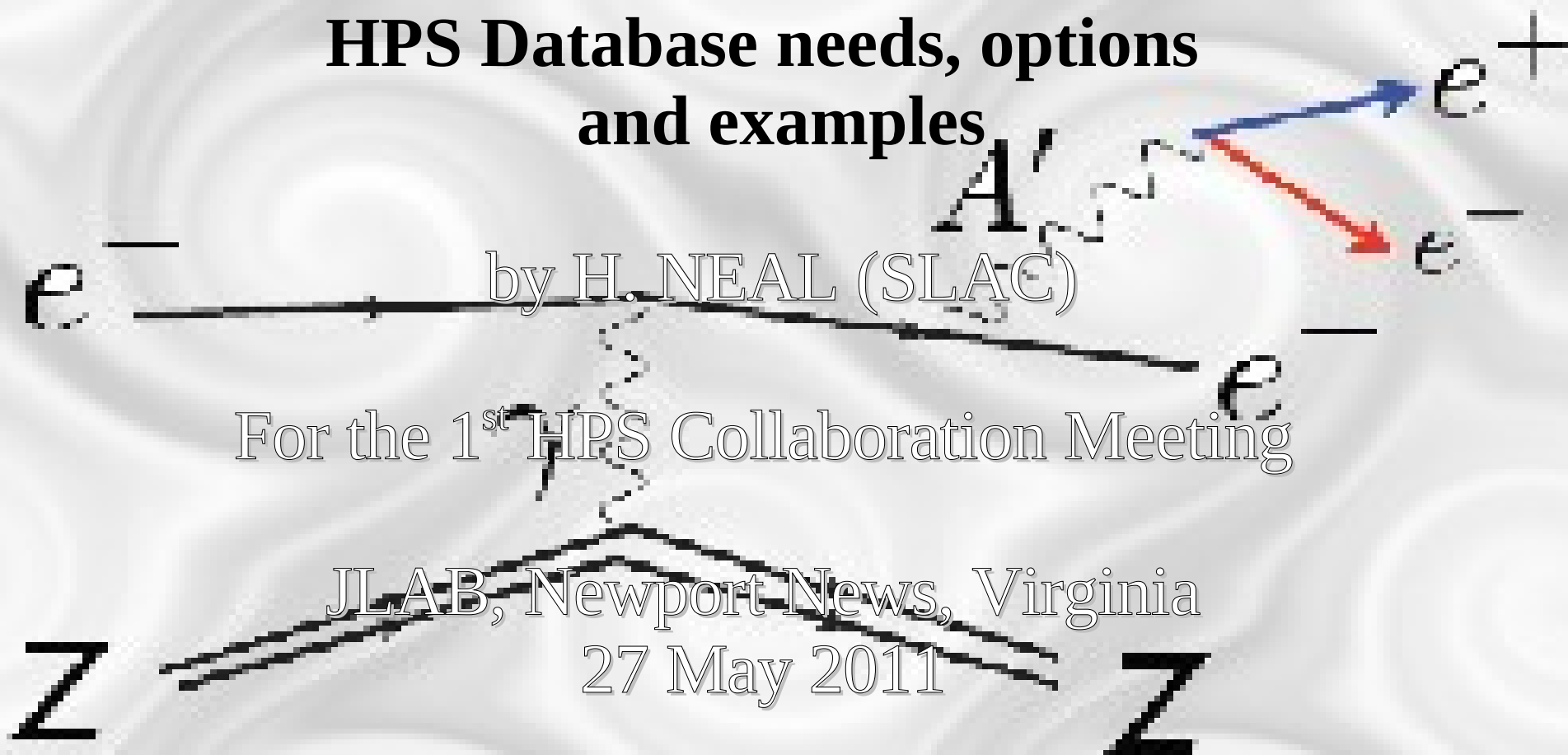
HPS Database needs, options and examples

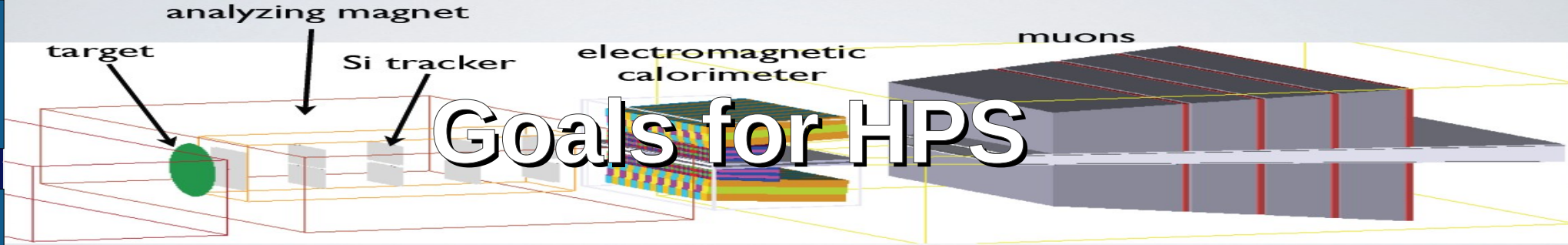
by H. NEAL (SLAC)

For the 1st HPS Collaboration Meeting

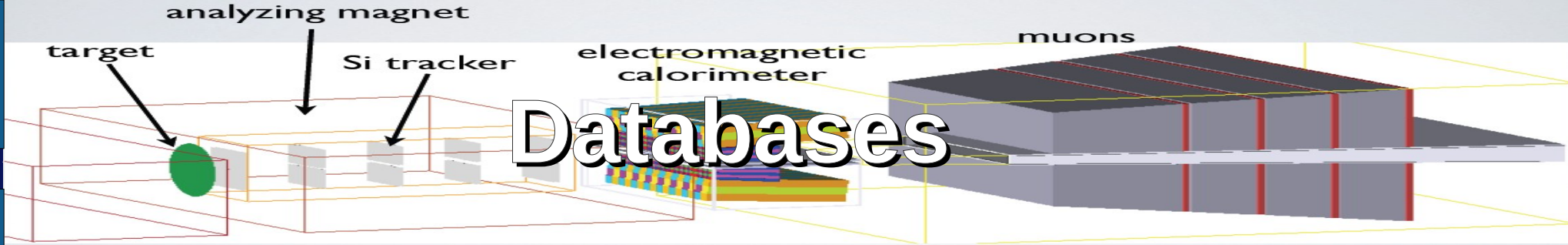
JLAB, Newport News, Virginia

27 May 2011





- Test run:
 - Simple, sufficient, guaranteed to be available and reliable
- Full run:
 - Monitor all conditions that could influence results
 - Changes in detector and beam conditions
 - Quality tracking
 - Handle multiple processings of the data



- ONLINE databases

- *Configuration:*

- *Ex:*

- *Hardware settings (high voltages, thresholds, etc.)*
 - *Electronic channel maps Trigger parameters (lookup tables, cuts, etc.)*
 - Framework configuration (module sequences, module parameters)
 - Farm configuration (host allocation etc.)

- *Ambient:*

- *Stores time history of the individual EPICS channels from Detector Control (voltage, pressure, temperature, etc.)*
 - *Frequently updated (within each run)*

analyzing magnet

target

Si tracker

electromagnetic calorimeter

muons

Filter Configuration Example

```

$ getFltConfig -time:"01Jan1975 00:00:00" -bg
<OBJECT>
  <BEGIN VALIDITY> Tue Oct 22 22:00:00 1974 (local time) 0 ns
  <END VALIDITY> Wed Jan 15 18:00:00 1975 (local time) 0 ns
  <CREATED> Thu Apr 2 10:33:34 2009 (local time) 775312000 ns
  <HANDLE> R256-333-0-9-0-0-117
  ----- begin of file -----
#
# $Id: BGFilter-R24-0009931.fcf,v 1.1 2008/05/01 06:12:13 yury Exp $
#
# BGFilter configuration for Event Reconstruction processing
#
# Change Log:
# R24-0009931.fcf : added RecoNewTauSelector, BGFHighMassHadron,
BGFKsKsOrHH, BGFNGam, BGFEMu
# run 9931: First run of Run1.
#
# Author:
# Rainer Bartoldus Stanford Linear Accelerator Center
#

```

Modules =

```

RecoAntpSelector          BGFAllNeutralTwoPhoton {}
RecoHighMassHadronSelector BGFHighMassHadron {}
RecoIsrSelector           BGFIsr {}
RecoMuMuSelector          BGFMuMu {}
RecoMultiHadronSelector   BGFMultiHadron {}
RecoNeutralHadronSelector BGFNeutralHadron {}
RecoPhiGamSelector        BGFPhiGamma {}
RecoRadTwoProngSelector   BGFRadTwoProng {}
RecoNewTauSelector        BGFTau {}
RecoTwoPhotonTwoTrackSelector BGFTwoPhotonTwoTrack {}
RecoTwoProngSelector      BGFTwoProng {}
RecoKsKsOrHHSelector      BGFKsKsOrHH {}
RecoNGamSelector          BGFNGam {}
RecoEMuSelector           BGFEMu {}
RecoBGFilter              RecoBGFilter {}

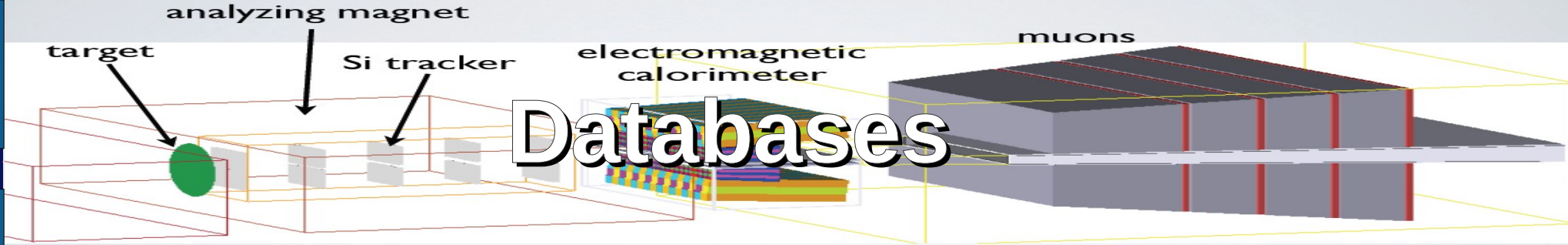
```

Filters =

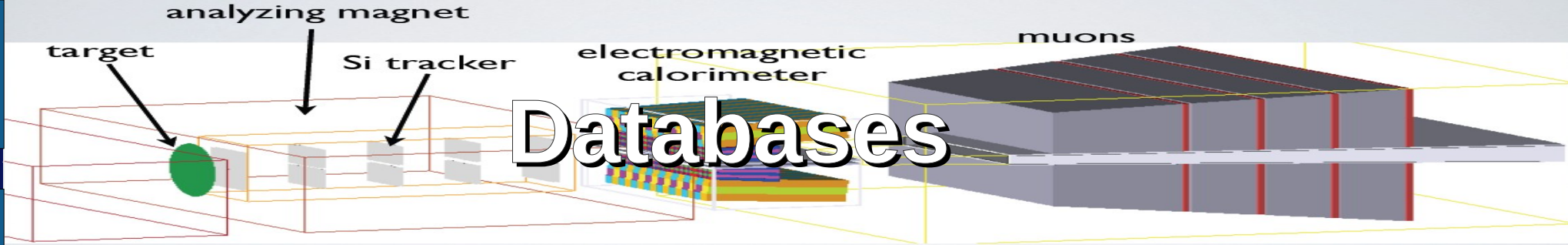
```

RecoBGFilter
(
  BGFAllNeutralTwoPhoton
  or BGFHighMassHadron
  or BGFIsr
  or BGFMuMu
  or BGFMultiHadron
  or BGFNeutralHadron
  or BGFPhiGamma
  or BGFRadTwoProng
  or BGFTau
  or BGFTwoPhotonTwoTrack
  or BGFTwoProng
  or BGFKsKsOrHH
  or BGFNGam
  or BGFEMu
  or DigiFBhabhaFlat
  or DigiFCosmic
  or DigiFCyclic1
  or DigiFDataDamage
  or DigiFGammaGamma
  or DigiFL1Open
  or DigiFL3Open
)

```

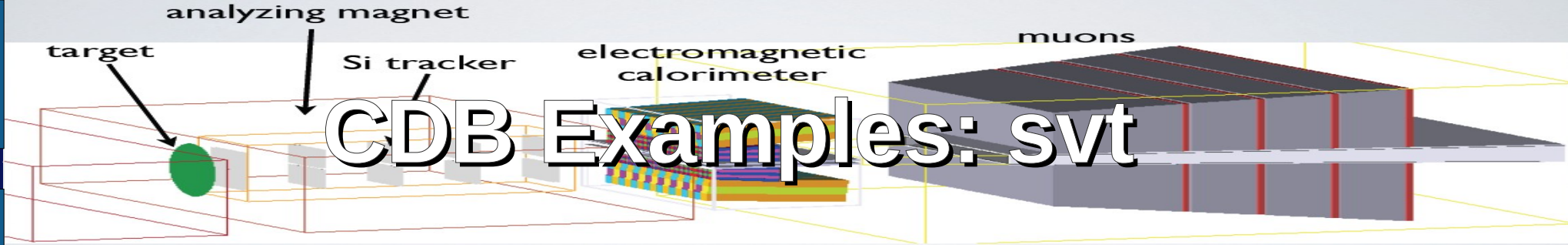


- OFFLINE databases
 - *Spatial & Temporal:*
 - *Support the PC (Prompt Calibration) pass of OPR/REPRO*
 - store intermediate calibration data collected and processed by Prompt Calibration farm
 - Updated for each run
 - Conditions Database: *CDB*



- - Conditions Database: *CDB*

- *Time varying environment in which detector events get acquired, modeled, processed, etc.*
- Update frequently varies (for different conditions)
- Highly distributed and replicated



```
$ CdbRooBrowser conditions /svt
```

```

/svt/
|
+-
CalBankT<CalStatusChan>.SvtStatusType[0]
+- MapDetectorP.Svt
+- MapSlotP.Svtmap[31]
...
+-
SvtCalBankT<SvtGNCalChan>.SvtGNCalType[0]
+-
SvtCalBankT<SvtTSCalChan>.SvtTSCalType-Q02_61-002[0]
+- SvtClusWidParP
+- SvtConstantsP
+- SvtDeadRSP
+- SvtGNCalType

```

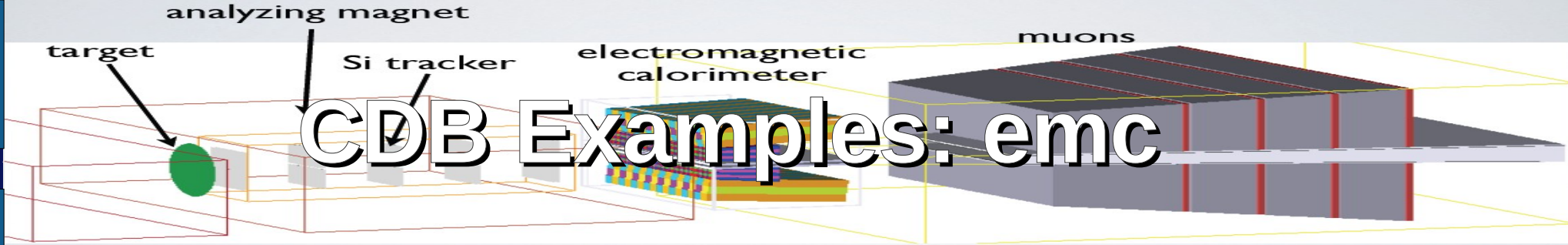
```

+- SvtNSCalType
+- SvtNominalBondingP
+- SvtPGlobalAlign
+- SvtPGlobalAlign_Resid
+- SvtPLayout
+- SvtPWaferAlign
+- SvtPidCalibP
+- SvtPidCalibP:HitTruncatedMean
+- SvtPidCalibP:HitTwoSide
+- SvtPidCalibP:TruncatedMean
+- SvtResoParP
+- SvtRosPhaseListP
+- SvtSimPLayout
+- SvtStatusType
+- SvtTSCalType-Q02_61-002
+- SvtTSCalType-Q03_60-002
+- SvtTSCalType-Q04_59-002
+- SvtTimeShiftsP
+- SvtTkFindConstP
+- SvtWaferDistortions
+- TrkTimeOffsetP

```

e^+

e^-



```
$ CdbRooBrowser conditions /emc
```

```
/emc/
|
+-
BACKUP_OF_CalBankT<CalStatusChan>.Emc
+- CalBankT<CalMSNChan>.EmcBhabhaType
...
+- CalBankT<CalMSNChan>.EmcBhabhaType
...
+- CalBankT<CalStatusChan>.EmcStatusType
...
CalBankT<EmcElecCalPChan>.EmcElecCalTy
...
CalBankT<EmcEnergyScaleChan>.EmcEnergyS
+-
CalBankT<EmcEnergyScaleChan>.EmcEnergyS
...
+- CalBankT<EmcMiniChan>.EmcMiniType[0]
...
+- CalBankT<EmcPedPChan>.EmcPedType[0]
...
CalBankT<EmcSrcPChan_001>.EmcSrcCalTyp
...
CalBankT<EmcSrcWeightChan>.EmcSrcWeigh
...
+- CalBankT<EmcSrcWeightChan>.EmcSrcWe
```

```
+ - EmcAlgBank
+ - EmcBhabhaType
+ - EmcBhabhaTypeTest
+ - EmcCalibDictionary
+ - EmcCrosstalkP
+ - EmcDefaultCalibP
+ - EmcDefaultCalibP_001
+ - EmcDigiAlgBank
+ - EmcEdgeCorrPhi
+ - EmcEdgeCorrPhiSigma
+ - EmcEdgeCorrTheta
+ - EmcEdgeCorrThetaSigma
+ - EmcElecCalType
+ - EmcEnergyScaleType
+ - EmcGLayoutP
+ - EmcGlobalAlignP
+ - EmcHwSystem
+ - EmcLPTTypeP
+ - EmcLayoutP
+ - EmcMiniType
+ - EmcMkIIComboCalibratorP
+ - EmcMkIIElectronCalibratorP
+ - EmcMkIIMCCalibratorP
+ - EmcMkIIPi0CalibratorP
+ - EmcMkIIPolyCalibratorP
+ - EmcMkIIRadBBCalibratorP
+ - EmcNeuCorrLambda
```

```
+ - EmcNeuCorrNu
+ - EmcNeuCorrPeak
+ - EmcNonLinearityDataP
+ - EmcPedType
+ - EmcPhotonClusterCalibratorP
+ - EmcPreshowerCorr
+ - EmcPreshowerNNCut
+ - EmcSimLayoutP
+ - EmcSimMediaListP
+ - EmcSrcCalBank.EmcSrcType[0]
...
+ - EmcSrcCalType
+ - EmcSrcType
+ - EmcSrcWeightType
+ - EmcStatusType
+ - EmcTimeShiftDataP
+ - EmcTrkMatchDataP
+ - EmcUnifDataP
+ - TrkTimeOffsetP
```



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target ultra tracker electromagnetic calorimeter

Validity Intervals of Objects in the CDB

```
$ setenv CDB_ROO_BOOT mysql:host=bbrdbops04,database=MASTER
```

```
$ CdbRooBrowser objects /pep/PepBoostCal_BhabhaP4 -oformat D
```

```
$
```

VISIBLE

```
begin : 3127645094.0101845000 : Thu Feb 10 06:18:14 2000 (local time) 101845000 ns
end : 3127647895.0111647000 : Thu Feb 10 07:04:55 2000 (local time) 111647000 ns
```

ORIGINAL

```
begin : 3127645094.0101845000 : Thu Feb 10 06:18:14 2000 (local time) 101845000 ns
end : 3155792400.0000000000 : Mon Jan 1 01:00:00 2001 (local time) 0 ns
```

```
STORED : 3387005381.0960302000 : Wed Apr 30 03:49:41 2008 (local time) 960302000 ns
```

```
ID : L257-188-P-0-49-0-11187
```

```
'LEGACY' ID :
```

```
OBJECT TYPE : PepBoostCalCdbR
```

VISIBLE

```
begin : 3127647895.0111647000 : Thu Feb 10 07:04:55 2000 (local time) 111647000 ns
end : 3127652497.0127684000 : Thu Feb 10 08:21:37 2000 (local time) 127684000 ns
```

ORIGINAL

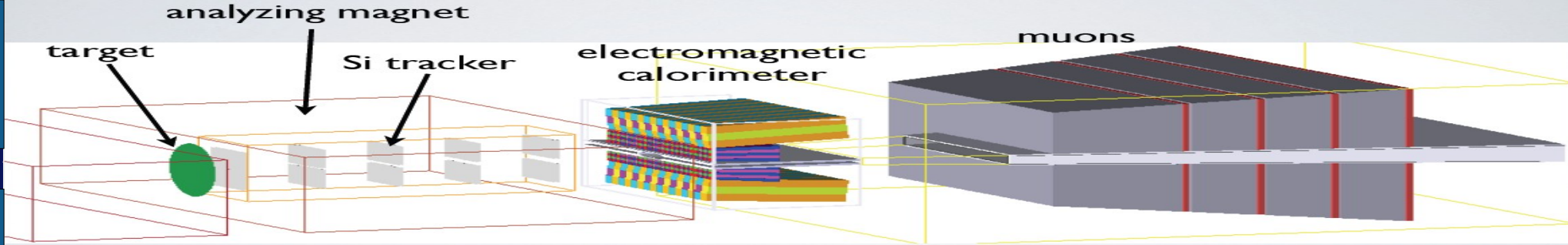
```
begin : 3127647895.0111647000 : Thu Feb 10 07:04:55 2000 (local time) 111647000 ns
end : 3155792400.0000000000 : Mon Jan 1 01:00:00 2001 (local time) 0 ns
```

```
STORED : 3387006892.0904087000 : Wed Apr 30 04:14:52 2008 (local time) 904087000 ns
```

```
ID : L257-188-P-0-49-0-11241
```

```
'LEGACY' ID :
```

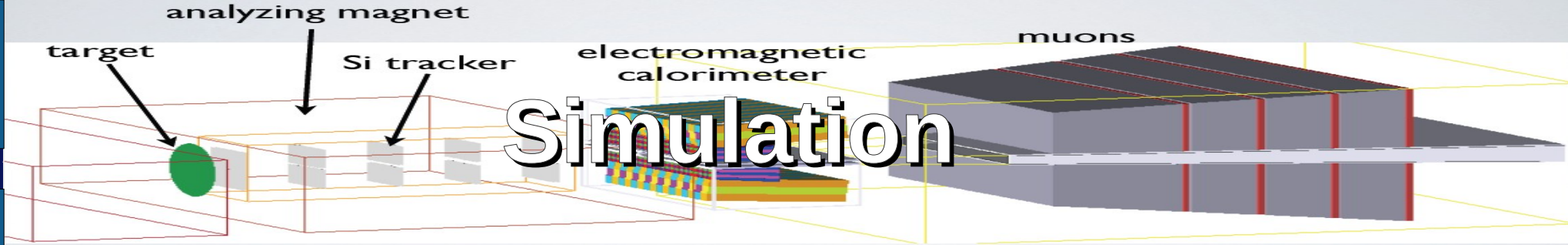
```
OBJECT TYPE : PepBoostCalCdbR
```



```

$ CdbRooBrowser condition_info /pep/PepBoostCal_BhabhaP4
# TYPE : PARTITIONABLE
# 'PHYSICAL' ID : 0::188
# 'PHYSICAL' NAME : "MASTER::PepBoostCal_BhabhaP4_AsRollingCalibration"
# CREATED : 3253377910.0301162000 : Wed Feb 4 12:05:10 2004
(local time) 301162000 ns
# REGISTERED IN VIEW : 3373875849.0650361000 : Fri Nov 30 03:44:09 2007
(local time) 650361000 ns
# LAST TIME MODIFIED : 3480968799.0083359837 : Fri Apr 22 16:46:39 2011
(local time) 83359837 ns
# DESCRIPTION : "New incarnation of an existing condition as the
PARTITIONABLE one"
# IS LINK : No
# LINK TARGET :

```



- Conditions selected by two keys:

- Background key:

sets of merged background event collections used for each major detector/filter/trigger state. The timestamp of the bkg event selects the conditions.

```
$ BbkUser --dse_type Bkg --dbname bbkr24 --dse_run_cycle run7 collection --summary --dse_status 1
COLLECTION
```

```
=====
/store/SP/R24/BkgTriggers/BkgTriggers_200711_OnPeak_V01
/store/SP/R24/BkgTriggers/BkgTriggers_200712_OnPeak_V04
/store/SP/R24/BkgTriggers/BkgTriggers_200801_OnPeak_V04
/store/SP/R24/BkgTriggers/BkgTriggers_200802_OffPeak_V07
/store/SP/R24/BkgTriggers/BkgTriggers_200802_OnPeak_V06
/store/SP/R24/BkgTriggers/BkgTriggers_200803_OffPeak_V04
/store/SP/R24/BkgTriggers/BkgTriggers_200803_OnPeak_V04
/store/SP/R24/BkgTriggers/BkgTriggers_200804_OnPeak_V04
=====
```

- Foreground key:

- Conditions alias to select conditions at a given moment:

- Trigger settings etc:

- Ex:

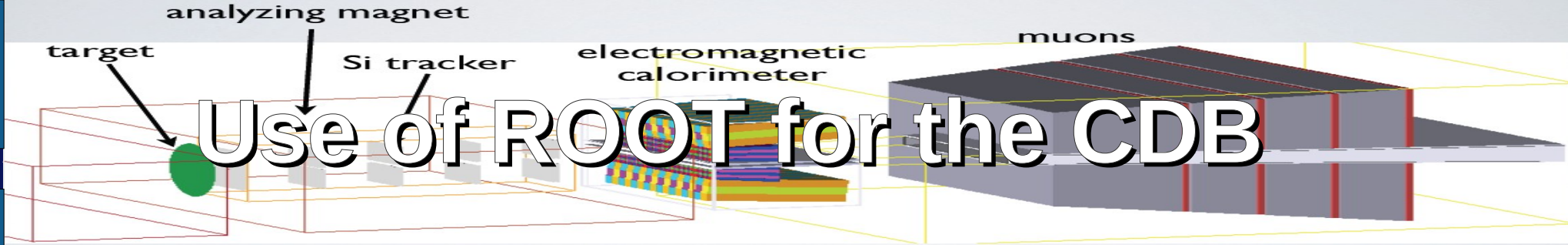
```
// pi+pi- invisible Trigger (L1,L3)
,"Jan2008b 1983 01 10 00 00 00" // middle of Y(3S) on-peak running in Jan. 2008
for CONFIGKey=Jan2008b
```



Views allow one to see the conditions as they were at a fixed moment in time even as the CDB continues to be updated. This is particularly useful during a reprocessing.

```
[noric02] ~ $ CdbRooBrowser views
```

```
...  
NAME="ANALYSIS50::07nov2008" ID=274::2 STATUS=NOT-FROZEN  
NAME="ANALYSIS50::23feb2009" ID=274::3 STATUS=NOT-FROZEN  
NAME="ANALYSIS50::Run7_update3" ID=274::1 STATUS=NOT-FROZEN  
NAME="ANALYSIS50::main" ID=274::0 STATUS=NOT-FROZEN  
...
```

From the user point of view, there is no difference between the course being the MySQL MASTER or the ROO CDB:

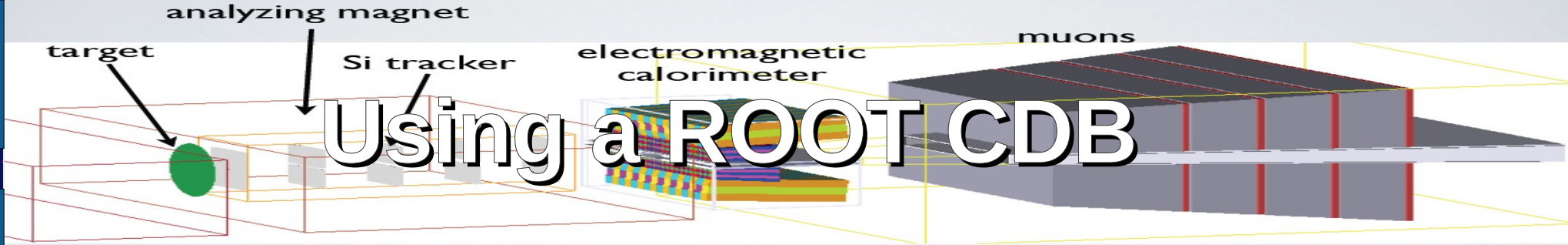
« MySQL CDB and ROOT based CDB _complement_ each other because ROOT CDB is a read-only file based implementation of the database. The ROOT CDB is supposed to be used everywhere except previously mentioned application areas where new/updated database contents and/or configurations get uploaded into CDB » - Igor Gaponenko

EXCEPT,

your job doesn't even have to have MySQL to run the applications.

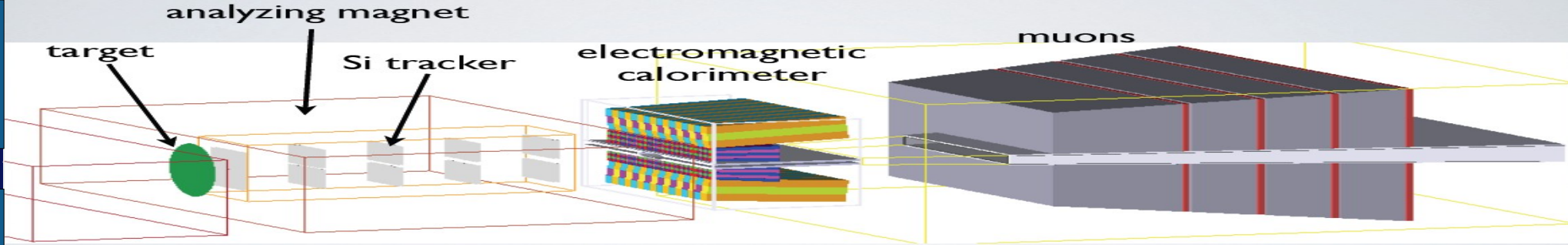
On BaBar, our batch jobs do not use MySQL or Oracle, all conditions come from the ROOT snapshot which is stored in the same XROOTD space as the reconstructed/simulated data.

```
% CdbMySQL2RooConversionDriver.py --verbose --notify=${USER}
--threads=<number_of_cores_on_machine>
--snapshot=<filesystem_where_the_snapshot_will_be_created>
--workdir=<where_to_store_log_files>
```



```
$ cond24boot09
Setting CDB_ROO_BOOT to kanga::/cond24boot09/full/cdb_boot.root
[noric02] ~ $ CdbRooBrowser status
TECHNOLOGY           : Roo
IMPLEMENTATION       : Readonly
DATABASE             : kanga::/cond24boot09/full/cdb_boot.root
VIEW NAME            : "MASTER::Final_Reprocessing_Update6"
VIEW IDENTIFIER      : 0::55
MODIFIED             : 3416146744.0391471000 : Thu Apr  2 10:39:04
2009 (local time) 391471000 ns
```

Just the setting of the environment variable is necessary to select the ROOT or MySQL database.



Examples of other databases:

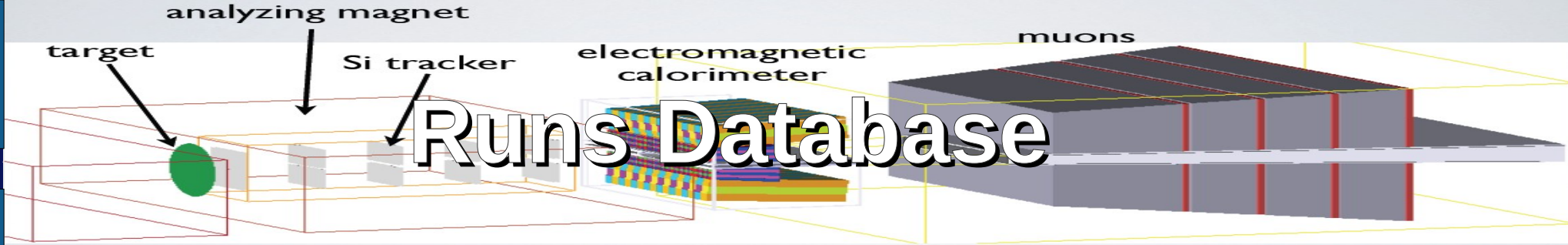




Simulation Production Database

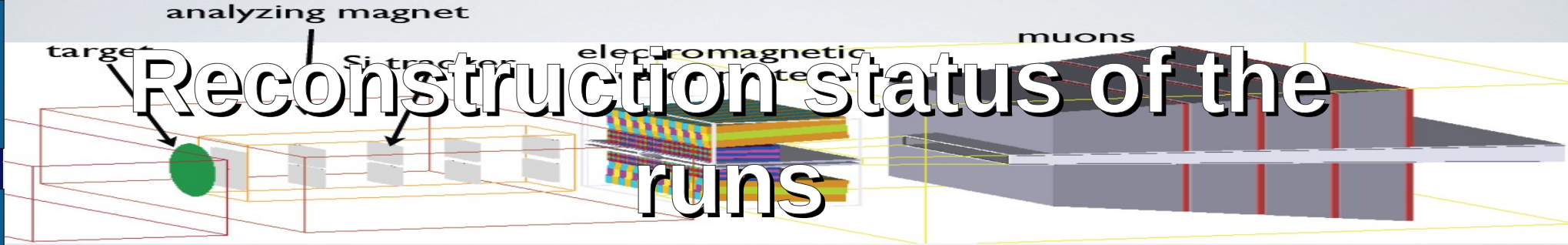
```
$ BbkSPUser --modenum 10200 modenum run prod_req_updated release --release 24\* run_status run_events  
--summary location merge_status
```

MODENUM	#RUN	PROD_REQ_UPDATED	RELEASE	RUN_STATUS	RUN_EVENTS	LOCATION	MERGE_STATUS
10200	20	16-APR-2010	24.3.5d	finished	1000	uvic2	bookkept
10200	16	16-APR-2010	24.3.5d	finished	2000	uvic2	bookkept
10200	10	16-APR-2010	24.3.5d	finished	3000	uvic2	bookkept
10200	13	16-APR-2010	24.3.5d	finished	4000	uvic2	bookkept
10200	10	16-APR-2010	24.3.5d	finished	5000	uvic2	bookkept
10200	11	16-APR-2010	24.3.5d	finished	6000	uvic2	bookkept
10200	6	16-APR-2010	24.3.5d	finished	7000	uvic2	bookkept
10200	22	16-APR-2010	24.3.5d	finished	8000	uvic2	bookkept



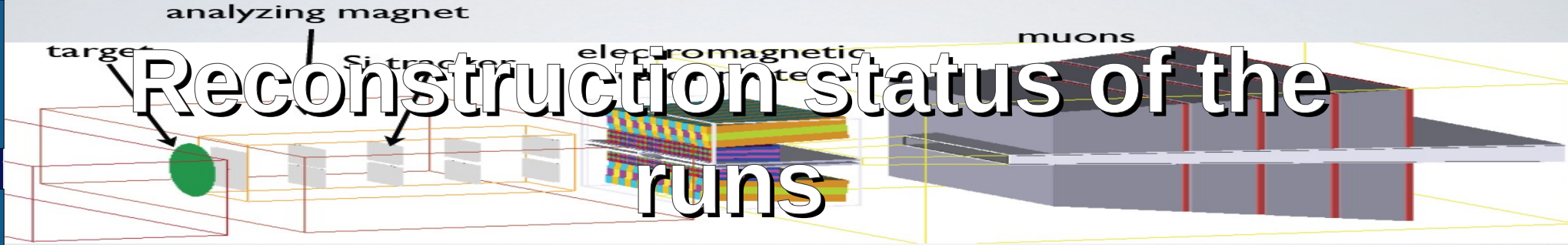
[noric02] ~ \$ ir2runs 76486-76500

RUN	DATE	SHIFT	STARTTIME	NEVENTS	TRGMSK	CONFI	RUNTYPE
76486	04-SEP-07	Owl	01:05:56	1287858	33ffffff	1eb0	Colliding
76487	04-SEP-07	Owl	02:02:08	856824	33ffffff	1eb0	Colliding
76488	04-SEP-07	Owl	02:40:43	249486	33ffffff	1eb0	Colliding
76489	04-SEP-07	Owl	02:52:34	237434	33ffffff	1eb0	Colliding
76491	04-SEP-07	Owl	03:07:19	1400505	33ffffff	1eb0	Colliding
76492	04-SEP-07	Owl	04:03:26	1450024	33ffffff	1eb0	Colliding
76494	04-SEP-07	Owl	05:01:30	1197540	33ffffff	1eb0	Colliding
76495	04-SEP-07	Owl	05:52:57	207696	f7ffffff	1ea9	Stable Bea
76496	04-SEP-07	Owl	06:01:56	0	1e1a		Calibratio
76497	04-SEP-07	Owl	06:02:07	0	1e36		Calibratio
76498	04-SEP-07	Owl	06:02:33	0	1e1c		Calibratio
76499	04-SEP-07	Owl	06:02:43	0	1e77		Calibratio
76500	04-SEP-07	Owl	06:02:58	0	1e18		Calibratio



```
[noric02] ~ $ oprruns 76486-76500
```

RUN	CONS	VER	PROCSPEC	DATE	SHIFT	DATE	NEVENTS	STATUS
76486	1	0	P22.3.0bV00fb	070905	Day	10:33	1287858	superceded
76486	1	0	P22.3.0dV00fb	071119	Owl	05:05	1287858	superceded
76486	1	0	P24.3.3V00fb	080628	Swing	22:01	1287858	done
76487	1	0	P22.3.0bV00fb	070906	Owl	05:02	856503	superceded
76487	1	0	P22.3.0dV00fb	071119	Day	09:05	856502	superceded
76487	1	0	P24.3.3V00fb	080629	Owl	01:41	856503	done
76488	1	0	P22.3.0bV00fb	070905	Day	11:58	249040	superceded
76488	1	0	P22.3.0dV00fb	071119	Day	11:43	249040	superceded
76488	1	0	P24.3.3V00fb	080627	Day	14:41	249040	done
76489	1	0	P22.3.0bV00fb	070905	Day	12:33	237093	superceded
76489	1	0	P22.3.0dV00fb	071119	Day	12:39	237095	superceded
76489	1	0	P24.3.3V00fb	080627	Day	14:51	237095	done
76491	1	0	P22.3.0bV00fb	070910	Day	13:18	1400504	superceded
76491	1	0	P22.3.0dV00fb	071119	Day	13:30	1400505	superceded
76491	1	0	P24.3.3V00fb	080628	Swing	23:32	1400505	done
76492	1	0	P22.3.0bV00fb	070910	Day	15:52	1450024	superceded
76492	1	0	P22.3.0dV00fb	071119	Swing	17:56	1450024	superceded
76492	1	0	P24.3.3V00fb	080629	Owl	02:39	1450024	done
76494	1	0	P22.3.0bV00fb	070910	Day	11:02	1197537	superceded
76494	1	0	P22.3.0dV00fb	071119	Swing	22:30	1197540	superceded
76494	1	0	P24.3.3V00fb	080627	Day	15:23	1197540	done



The query can be as simple as:

```
sqlquery <<EOF
```

```
select RUN,PROCSPEC,STATUS,STARTTIME,to_char(starttime,'HH24:MI'),PRFARM  
from Oprtestdb.shift_oprrun where proc
```

```
spec like '%P24.3%';
```

```
EOF
```

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Data Files database (Book Keeping)

```
$ BbkUser --dbname bbkr24 --run 77686 --summary --dse_type PR collection events_in events gbytes dse_status
```

COLLECTION	+EVENTS_IN	+EVENTS	+GBYTES	DSE_STATUS
/store/PR/R24/AllEvents/0007/76/24.1.3c/AllEvents_00077686_24.1.3cV00	225598	106251	1.0	2
/store/PR/R24/AllEvents/0007/76/24.2.1f/AllEvents_00077686_24.2.1fV00	225598	108574	1.0	2
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00	225598	125897	1.1	1
/store/PR/R24/AllEvents/0007/76/24.5.7/AllEvents_00077686_24.5.7V00	225598	125896	1.0	0
/store/PR/R24/BGFilterSkim/0007/76/24.2.1n/BGFilterSkim_00077686_24.2.1nV00	225598	12462	0.1	2
/store/PR/R24/BkgTriggers/0007/76/24.1.3c/BkgTriggers_00077686_24.1.3cV00	225598	129	0.0	2
/store/PR/R24/BkgTriggers/0007/76/24.2.1f/BkgTriggers_00077686_24.2.1fV00	225598	129	0.0	2
/store/PR/R24/BkgTriggers/0007/76/24.3.5d/BkgTriggers_00077686_24.3.5dV00	225598	129	0.0	1
/store/PR/R24/BkgTriggers/0007/76/24.5.7/BkgTriggers_00077686_24.5.7V00	225598	129	0.0	0
/store/PR/R24/TriggerStream/0007/76/24.1.3c/TriggerStream_00077686_24.1.3cV00	225598	31817	0.3	2
/store/PR/R24/TriggerStream/0007/76/24.2.1f/TriggerStream_00077686_24.2.1fV00	225598	31984	0.3	2
/store/PR/R24/TriggerStream/0007/76/24.3.5d/TriggerStream_00077686_24.3.5dV00	225598	46820	0.4	1
/store/PR/R24/TriggerStream/0007/76/24.5.7/TriggerStream_00077686_24.5.7V00	225598	46856	0.3	0
Totals	2932774	637073	5.3	

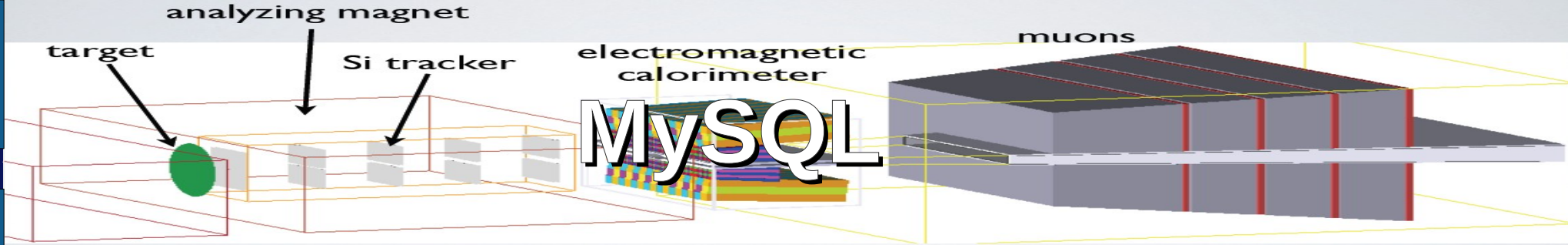


Data Files database (Book Keeping)

```

$ BbkUser --dbname bbkr24 --run 77686 --summary --dse_type PR collection lfn --stream AllEvents --dse_status 1
COLLECTION                                                                    LFN
=====
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00 /store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.01.root
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00 /store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.02E.root
=====
Totals
2 rows returned from bbkr24 at slac
[noric02] ~ $ cd scr
[noric02] ~/scr $ KanCollUtil -P /store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00
...
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00 (125897 events)
  PFN 000  root://kanolb-a:1094///store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.01.root
  PFN 001  root://kanolb-a:1094///store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.02E.root
[noric02] ~/scr $ xrdcp root://kanolb-a:1094///store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.01.root .
[xrootd] Total 401.08 MB      |=====| 100.00 % [47.3 MB/s]

```



```

$ BbkUser --pretty-sql --dbname bbkr24 --run 77686 --summary --dse_type PR collection lfn --stream AllEvents --dse_status 1
SELECT      bbkr24.bbk_dsentities.name AS "collection",
            bbkr24.bbk_files.suffix AS "file_suffix"
FROM        bbkr24.bbk_dsentities,
            bbkr24.bbk_runs,
            bbkr24.bbk_streams,
            bbkr24.bbk_files,
            bbkr24.bbk_dsetorun
WHERE       bbkr24.bbk_streams.id=bbkr24.bbk_dsentities.stream_id
            AND bbkr24.bbk_dsetorun.dse_id=bbkr24.bbk_dsentities.id
            AND bbkr24.bbk_runs.id=bbkr24.bbk_dsetorun.run_id
            AND bbkr24.bbk_dsentities.id=bbkr24.bbk_files.dse_id
            AND bbkr24.bbk_dsentities.dse_type='PR'
            AND bbkr24.bbk_dsentities.dse_status='1'
            AND bbkr24.bbk_runs.run=77686
            AND bbkr24.bbk_streams.name='AllEvents';

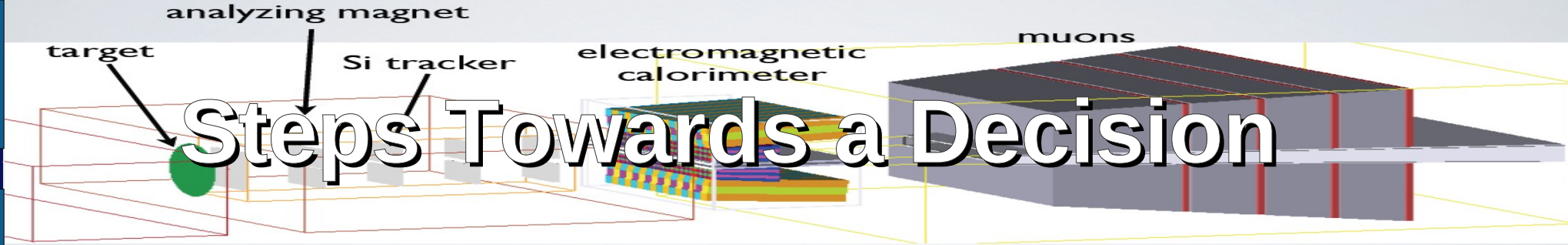
```

COLLECTION	LFN
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00	/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.01.root
/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00	/store/PR/R24/AllEvents/0007/76/24.3.5d/AllEvents_00077686_24.3.5dV00.02E.root

```

Totals
2 rows returned from bbkr24 at slac

```



1) Define what is the minimum we need for the test run.

2) Who will implement it?

If the BaBar style is desired:

The designers (Igor Gaponenko, Andy Salnikov) might be available to set this up for HPS. They have not been asked yet.

Perhaps something simpler is a better choice but ultimately the needs are not so different for the full run.