

# Production Datasets for Physics Analysis

Maintained by Lidia Didenko

Last modified 06/04/2018 19:41:15

## Real Data Production Summary

### AuAu 54GeV, run 2017 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, esmd, mtd, fms, fps, fcs, gmt, epd, rhicf ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak Full corrections;

#### Trigger sets

- AuAu54\_production\_2017;

next stream data are processed:

st\_physics, st\_mtd, st\_upc, st\_epd, st\_ht, st\_hlt, st\_rhicf, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2017](#) Web page.

#### Production Series

- P17ii production with [library SL17i](#). StiCA tracking has been used for tracks reconstruction. st\_upc stream data are processed with 'VFPPVnoCTB, beamline' options for vertex finding. Next vertex cut has been applied: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5 .  
**Production** has wrong west BTOF geometry; picoDst files don't have BEMC tower information; production was **rerun** with latest library SL18c ;
- P18ic reproduction with [library SL18c](#). StiCA tracking has been used for tracks reconstruction. st\_upc stream data are processed with 'VFPPVnoCTB, beamline' options for vertex finding. Next vertex cut has been applied: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5 .  
Production has fixed west BTOF geometry and picoDst completed with latest picoDst code which has BEMC tower information in; st\_epd stream data rerun with picoDst code which has updated epd information in picoDst;

## pp 510GeV, run 2017 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, esmd, mtd, pp2pp, fms, fps, fcs, gmt, epd, etof(for test) ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

### Trigger sets

- pp500\_production\_2017;
- pp500\_production\_rhcf\_2017;

next stream data are processed:

st\_W, st\_physics, st\_mtd, st\_fms ;

st\_rp stream data in pp500\_production\_rhcf\_2017 dataset;

Trigger set and stream data description could be found on [Trigger 2017](#) Web page.

### Production Series

- P17ig production of st\_W stream data with [library SL17g](#). StiCA tracking has been used for tracks reconstruction with 'VFPPVnoCTB, beamline3D' options for vertex finding. Next vertex cut has been applied: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5 .
- P18ib production of st\_physics stream data with [library SL18b](#). StiCA tracking has been used for tracks reconstruction with 'VFPPVnoCTB, beamline3D' options for vertex finding. Next vertex cut has been applied: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5 .  
st\_rp stream data from pp500\_production\_rhcf\_2017 dataset;
- P18ic production of st\_fms, st\_mtd stream data has been processed with [library SL18c](#) which has updated FMS code needed for run 2017 production and picoDst code chnages: updated function in StPicoMtdTrigger.cxx to extract the QT information and provide correct trigger information in picoDst.

## AuAu 200GeV, run 2016 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, bsmd, esmd, mtd, pxl, ist, sst, gmt ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

### Trigger sets

- AuAu\_200\_production\_2016;
- AuAu200\_production2\_2016;

next stream data are processed;  
st\_physics, st\_mtd, st\_WB, st\_hlt, st\_upc,  
st\_sst, st\_nosst, st\_fms, st\_zerobias

Trigger set and stream data description could be found on [Trigger 2016](#) Web page.

## Production Series

- P17if production of st\_upc stream data with [library SL17f](#). StiCA tracking has been used for tracks reconstruction. Data taken before run number 17062047 were processed without HFT tracking due to firmware issue with HFT detectors. Data taken after runnumber 17062047 were processed with HFT tracking.  
"VFPPVnoCTB, beamline, VFStoreX" options have been used for vertex finding with default PPV cut vertex cut: DcaZMax = 3cm, RImpactMax = 3cm, MinTrack = 2, nHitFit/nHitPoss > 0.7 . "VFStoreX" used to save at least 100 vertices in MuDst.
- P16ij production of st\_hlt, st\_physics, st\_mtd, st\_WB, st\_nosst, st\_sst, st\_fms, st\_zerobias stream data with [library SL16j](#). StiCA tracking has been used for tracks reconstruction. Data taken before run number 17062047 were processed without HFT tracking due to firmware issue with HFT detectors. Data taken after runnumber 17062047 were processed with HFT tracking.  
"VFMinuit" option has been used for vertex finding with default cut: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5.  
st\_physics data are using updated/improved dEdx calibrations; for st\_hlt stream data it is possible to recalculate dEdx nSigma distribution using the improved calibration parameters in the database but it could be applied only for MuDst data format;  
st\_mtd and st\_WB stream data are processed without HFT tracking by request of PWG;
- P16ik production of st\_hlt stream data for runnumber >= 17062047 without HFT tracking for comparison with data reconstructed with HFT tracking. Library used for reconstruction is [SL16k](#). There are no difference in tracking codes with SL16j library. The rest of parameters are the same as in P16ij production.

## dAu 200GeV, run 2016 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, bsmd, esmd, mtd, pxl, ist, sst, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- dAu200\_production\_2016;  
next stream data are processed: st\_physics, st\_upc, st\_mtd, st\_hlt, st\_WB, st\_fms, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2016](#) Web page.

## Production Series

- P17ib production of st\_physics stream data with [library SL17b](#). StiCA + HFT tracking has been used for tracks reconstruction.  
"VFMinuit, beamline" options has been used for vertex finding with default cut: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5  
Library includes the changes in StMtdUtil class which are only intended to be for data taken from 2017 and are not backward compatible (by mistake); It effects only 10 out of 122 MTD trays which can be fixed by reproducing the picoDst files.  
Data can be used for HFT and HT analyses anyway;  
SL17b library was updated with MTD geometry fixes by the time when st\_upc data are processed.
- P17id reproduction of st\_physics stream data with [library SL17d](#) on CORI. StiCA + HFT tracking has been used for tracks reconstruction.  
"VFMinuit, beamline3D" options has been used for vertex finding with default cut: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5 to provide adervate comparison with auau 200GeV data  
st\_mtd stream data are processed without HFT tracking;

## dAu 62GeV, run 2016 data production

next deterctors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, bsmd, esmd, mtd, pxl, ist, sst, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

### Trigger sets

- dAu62\_production\_2016;  
next stream data are processed:  
st\_physics, st\_upc, st\_mtd, st\_WB, st\_hlt, st\_fms, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2016](#) Web page.

### Production Series

- P17id production of st\_physics stream data with [library SL17d](#). StiCA + HFT tracking has been used for tracks reconstruction.  
"VFMinuit, beamline3D" options has been used for vertex finding with default cut: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5 to provide adervate comparison with auau 200GeV data  
st\_mtd stream data are processed without HFT tracking;

## dAu 39GeV, run 2016 data production

next deterctors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, mtd, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- dAu39\_production\_2016;  
next stream data are processed:  
st\_physics, st\_upc, st\_mtd, st\_fms, st\_zerobias;

Trigger set and stream data description could be found on [Trigger 2016](#) Web page.

## Production Series

- P17id production of st\_physics stream data with [library SL17d](#). StiCA tracking has been used for tracks reconstruction.  
"VFMinuit, beamline3D" options has been used for vertex finding with default cut: DcaZMax = 6cm, RImpactMax = 6cm, MinTrack = 5 to provide adervate comparison with auau 200GeV data  
st\_mtd stream data are processed without HFT tracking;

## dAu 20GeV, run 2016 data production

next deterctors are on: tpx (tpc with daq1000 electronics), tof, VPD, emc, eemc, mtd, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- dAu20\_production\_2016;  
next stream data are processed:  
st\_physics, st\_mtd, st\_upc, st\_fms, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2016](#) Web page.

## Production Series

- P17id production of st\_physics stream data with [library SL17d](#). StiCA tracking has been used for tracks reconstruction.  
"VFMinuit, beamline3D" options has been used for vertex finding with default cut: DcaZMax = 6cm, RImpactMax = 6cm, MinTrack = 5  
st\_mtd stream data are processed without HFT tracking;

## pAu 200GeV, run 2015 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, pVPD, emc, eemc, bsmd, esmd, mtd, pp2pp (Roman Pot) pxl, ist, sst, gmt, fps ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- production\_pAu200\_2015;
- production\_pAu200\_fms\_2015;

next stream data rae processed:

st\_physics, st\_mtd, st\_fms, st\_rp, st\_ssddb, st\_nosddb, st\_himult, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2015](#) Web page.

## Production Series

- P15ik production of st\_fms stream data with [library SL15k](#). Bug was found in fms calibration data and production was rerun with SL15l library;
- P15il production of st\_fms stream data with [library SL15l](#).
- P16id production of st\_mtd, st\_rp, st\_physics stream data with [library SL16d](#).  
Vertex finder used "VFPPVnoCTB beamline" options with W-mode vertex cut: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5  
**MuDst -> picoDst** conversion for **st\_physics** stream data has been rerun with [SL18b library](#) and chain: "picoDst PicoVtxMode:PicoVtxVpdOrDefault TpcVpdVzDiffCut:6" ;
- P17id production of st\_ssddb & st\_nosddb stream data with [library SL17d](#).  
Vertex finder used "VFPPVnoCTB beamline3D" options with W-mode vertex cut: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5  
**MuDst -> picoDst** conversion for **st\_ssddb** stream data has been rerun with [SL18b library](#) and chain: "picoDst PicoVtxMode:PicoVtxVpdOrDefault TpcVpdVzDiffCut:6" ;

## pAl 200GeV, run 2015 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, pVPD, emc, eemc, bsmd, esmd, mtd, pp2pp (Roman Pot) pxl, ist, sst, gmt, fps ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- production\_pAl200\_2015;
- production\_pAl200\_2015\_lowlumi;

next stream data are processed :

st\_physics, st\_fms, st\_rp, st\_ssddb, st\_nosddb, st\_mtd, st\_himult, st\_zerobias;

Trigger set and stream data description could be found on [Trigger 2015](#) Web page.

## Production Series

- P16id production with [library SL16d](#).  
Chain used additional TOF calibration timestamp DbV20160710\_TOF\_Calibrations to avoid a problem with new TOF table implementation: 'number of rows in tofINLSCorr table exceeds the array limit'  
Vertex finder used "VFPPVnoCTB beamline" options with W-mode vertex cut: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5
- P17id production of st\_ssdb & st\_nosssdb stream data with [library SL17d](#).  
Vertex finder used "VFPPVnoCTB beamline3D" options with W-mode vertex cut: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5

## pp 200GeV, run 2015 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, pVPD, emc, eemc, bsmd, esmd, mtd, pp2pp (Roman Pot) pxl, ist, sst, gmt, fps ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections;

## Trigger sets

- production\_pp200trans\_2015;
- production\_pp200long\_2015;
- production\_pp200long2\_2015;
- production\_pp200long3\_2015;
- production\_fms\_pp200trans\_2015;
- production\_fms\_pp200long2\_2015;

next stream data are processed st\_physics, st\_mtd, st\_himult, st\_fms, st\_rp, st\_ssdb, st\_nosssdb, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2015](#) Web page.

## Production Series

- P15ik production of st\_fms & st\_rp stream data with [library SL15k](#); TPX (TPC + daq1000 electronics) tracking for st\_rp stream data, final calibrations for TPC, TOF, pp2pp. Vertex finder used "VFPPVnoCTB beamline" options.  
PXL, IST & SST are not included in the tracking .
- P16ic production of st\_physics, st\_mtd, st\_himult & st\_zerobias stream data with [library SL16c](#); TPX (TPC + daq1000 electronics) tracking for st\_rp stream data, final calibrations for TPC, TOF, pp2pp. Vertex finder used "VFPPVnoCTB beamline" options with default PPV cut: nHitFit/nHitPoss > 0.7, MinTrack = 2, DcaZMax = 3cm, RImpactMax = 3cm. This cut is different from the cut used in run 2012-2013 for W reconstruction: nHitFit/nHitPoss > 0.5 and RImpactMax = 2cm .

PXL, IST & SST are not included in the tracking .

Production was done for ~40% of production\_pp200trans\_2015 dataset and postponed due to different vertex cut;

- P16id production of st\_physics, st\_mtd, st\_himult, st\_ssdb, st\_nosddb & st\_zerobias stream data with [library SL16d](#), for primary tracks reconstruction W-mode vertex cut has been used: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5 .
- P17if reproduction of st\_rp stream data with [library SL17f](#). Selection of TOF matching tracks only has been used and VFStore:100 options for primary tracks using W-mode vertex cut: DcaZMax = 3cm, RImpactMax = 2cm, MinTrack = 2, nHitFit/nHitPoss > 0.5 .
- **MuDst** -> **picoDst** conversion for **st\_mtd** stream data produced in P16id production has been done with [SL17i library](#) and genDst.C macro with options:  
"picoDst,PicoVtxMode:PicoVtxVpdOrDefault,TpcVpdVzDiffCut:6.0"

## AuAu 200GeV, run 2014 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof, pVPD, emc, eemc, bsmc, esmd, mtd, pxl, ist, sst, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, new sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections; PXL & IST alignment;

### Trigger sets

- AuAu\_200\_production\_low\_2014;
- AuAu\_200\_production\_mid\_2014;
- AuAu\_200\_production\_high\_2014;
- AuAu\_200\_production\_2014;

stream data: st\_physics, st\_hlt, st\_upc, st\_WB, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2014](#) Web page.

### Production Series

- P15ic production of st\_physics & st\_hlt stream data with [library SL15c](#); TPX (TPC + daq1000 electronics) + PXL + IST tracking, final calibrations. Vertex finder used "VFMinuit" options with parameters DcaZMax = 3cm, RImpactMax = 3cm, minTrack = 2. (SST is not included in the tracking). Bug in StPxlRawHitMaker was found in this library and data have been rerun with TPX+PXL+IST tracking in the SL16d library after bug was fixed. AuAu\_200\_production\_high\_2014 dataset does not have HFT detectors turned on to record beam collisions due to high luminosity and data don't have PXL +IST tracking.
- P15il production of st\_sst stream data with [library SL15c](#), Sti + PXL+IST+SST tracking;
- P16id reproduction of **st\_physics** stream data for low & midium luminosity datasets with [library SL16d](#), with TPX+PXL+IST tracking and fixed bug in StPxlRawHitMaker. Vertex finder used 'VFMinuit' options with next vertex cut: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.  
**st\_upc** stream data processed without HFT tracking, vertex finder used 'VFPPVnoCTB beamline' options and vertex cut: DcaZMax = 3cm, RImpactMax = 3cm, MinTrack = 2, nHitFit/nHitPoss > 0.7 .
- P16ig production of **st\_WB** stream data processed with [library SL16g](#) (First production library with official StiCA code release). StiCA tracking was used for tracks reconstruction and "VFMinuit" options for vertex finding with next vertex cut: DcaZMax = 3cm, RImpactMax = 1.5cm, MinTrack = 5 . There was no HFT tracking for



st\_WB stream data.

- P17id production of **st\_physics** stream data processed with [library SL17id](#). Trigger selection options was used to process data, StiCA tracking without HFT tracking by request of JetCorr PWG. "VFMinuit" options for vertex finding with next vertex cut:DcaZMax = 3cm, RImpactMax = 3cm, MinTrack = 2 and nHitFit/nHitPoss > 0.7. **MuDst -> picoDst** conversion of **st\_physics** stream data for P17id production has been done with [SL18b library](#) and genDst.C macro with options:  
"picoDst,PicoVtxMode:PicoVtxVpdOrDefault,TpcVpdVzDiffCut:3"

## Trigger sets

- AuAu\_200\_production\_high\_2014;
- AuAu\_200\_production\_mid\_2014;
- AuAu\_200\_production\_low\_2014;
- AuAu\_200\_production\_2014;

stream data: st\_mtd ;

## Production Series

- P15ie production of st\_mtd stream data with [library SL15e](#); TPX (TPC + daq1000 electronics) tracking; PXL + IST tracking if these detectors are present in the runs (mostly there are no HFT detectors in run, only material included in reconstruction), final calibrations.  
Vertex finder used "VFMinuit" options with parameters DcaZMax = 3cm, RImpactMax = 3cm, minTrack = 2; For data processing used MTD event filtering to reduce number of events for reconstruction.

## AuAu 14.5GeV, run 2014 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), pVPD, emc, eemc, bsmd, esmd, mtd, gmt ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

## Trigger sets

- production\_15GeV\_2014;

stream data: st\_physics, st\_mtd, st\_hltgood, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2014](#) Web page.

## Production Series

- P14ii production of all stream data with [library SL14i](#); TPX (TPC + daq1000 electronics) tracking, final calibrations.  
Vertex finder used "VFMinuit" options with parameters: DcaZMax = 3cm, RImpactMax = 3cm, minTrack = 2. NO HFT tracking & material in this dataset.

## He3Au 200GeV, run 2014 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), pVPD, emc, eemc, bsmd, esmd, mtd, pxl, ist, sst, gmt ; set of detectors varies with run numbers  
Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuHe3\_production\_2014;  
stream data: st\_physics, st\_zerobias, st\_hcal ;

Trigger set and stream data description could be found on [Trigger 2014](#) Web page.

### Production Series

- P14ih preview production for st\_hcal stream data with [library SL14h](#); Reconstuction chain does not include tracking, only EMC/EEMC data processing and written to MuDst format.
- P15ib low luminosity preview data production (limited statistics, ~53M events) of st\_physics & st\_zerobias stream data with [library SL15b](#); TPX (TPC + daq1000 electronics) tracking, fastoffline level of calibrations.  
Vertex finder used "VFMinuit" options with parameters DcaZMax = 3cm, RImpactMax = 3cm, MinTrack = 2. No HFT tracking for this dataset.

## pp 510GeV, run 2013 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), pVPD, emc, eemc, bsmd, esmd, mtd, fpd, fgt, gmt, pxl(not complete) ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, year 2000 sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- pp500\_production\_2013;
- pp500\_production\_2013a;
- pp500\_production\_2013\_noendcap;

- pp500\_production\_fms\_2013;
- pp500\_production\_fmsonly\_2013;
- pp500\_upc\_2013;

stream data: st\_physics, st\_WE, st\_WB, st\_fms, st\_mtd, st\_hlt, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2013](#) Web page.

## Production Series

- P14ia production of all stream data and run numbers for days 76 - 126 without HFT detector in, with [library SL14a](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations.  
Vertex finder used "VFPPVnoCTB, beamline" options.
- P14ig production of all stream data and run numbers for days 129 - 161 with HFT detector in, with [library SL14g](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, HFT geometry was taken into account but no tracking with it; final calibrations.  
Vertex finder used "VFPPVnoCTB, beamline" options.  
The **TOF calibrations** tables for this second run were all zeroed; the recommendation was to run the TOF afterburner when processing the MuDSTs and the correct tables will be re-uploaded. The VPD calibration is *\*not\** affected by this, neither is the TOF matching (matching of TPC tracks to TOF hits)  
Look at the blog to learn how to run **TOF afterburner**;  
Also **MTD afterburners** needs to be run to apply the calibration parameters for MTD data. The details how to run MTD afterburners are described in this [blog](#).
- P16ig reproduction of st\_WB, st\_WE stream data for pp500\_production\_2013 dataset with StiCA tracking, processed with [library SL16g](#).

## cuAu 200GeV, run 2012 data production (limited dataset ~280M events)

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), emc, eemc, bsmd, esmd, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, year 2000 sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

## Trigger sets

- cuAu\_production\_2012;

stream data: st\_physics, st\_gamma, st\_mtd, st\_npe, st\_stranglet, st\_fixcentral ;

Trigger set and stream data description could be found on [Trigger 2012](#) Web page.

## Production Series

- P14ia preview production of all stream data (limited statistics) with [library SL14a](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, fastoffline level of calibrations. Vertex finder used "VFMinuit" .
- P15ie production of all stream data (limited statistics) with [library SL15e](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations. Vertex finder used "VFMinuit" option with parameters: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 5.

## pp 200GeV, run 2012 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), emc, eemc, bsmd, esmd, mtd, fgt; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, year 2000 sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- pp200\_production\_2012;
- pp200\_production\_2012\_setup;
- pp200\_production\_noemc\_2012;
- pp200\_production\_fms\_2012;

stream data: st\_physics, st\_fgt, st\_fms, st\_hlt, st\_mtd, st\_daqtenk, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2012](#) Web page.

### Production Series

- P12id production of all stream data with [library SL12d](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations. Vertex finder used "VFPPVnoCTB, beamline, useBTOF4Vtx" options where 'useBTOF4Vtx' used for vertex ranking. dEdx nSigma distribution for protons & pions is slightly shifted.
- P13ib production was run on KISTI cluster to test production framework and GRID infrastructure stability for site large scale production. Production was not analysed and validated by PWG users, not recommended for analysis;

## UU 193GeV, run 2012 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), emc, eemc, bsmd, esmd, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, year 2000 sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- UU\_production\_2012;  
stream data: st\_physics, st\_centralpro, st\_hlt, st\_gamma, st\_mtd, st\_upc, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2012](#) Web page.

## Production Series

- P12ic partial preproduction of limited dataset of st\_physics and st\_centralpro stream data for QM2012 with [library SL12c](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, calibrations were not completed. Vertex finder used "VFMinuit" option with parameters: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 5. **Production was dropped** after dataset has been reproduced with final calibrations in P12id
- P12id production of all stream data with [library SL12d](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations. Vertex finder used "VFMinuit" option with parameters: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 5.

## pp 500GeV, run 2012 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), fgt, emc, eemc, bsmd, esmd, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, year 2000 sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

## Trigger sets

- pp500\_production\_2012;
- pp500\_production\_2012\_noemc;
- pp500\_production\_fms\_2012;
- pp500\_lowluminosity\_2012;  
stream data: st\_physics, st\_daqtank, st\_W, st\_fms, st\_hlt, st\_mtd, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2012](#) Web page.

## Production Series

- P12ic partial preproduction of st\_W stream data for SPIN2012 conference with [library SL12c](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, calibrations were not completed. Vertex finder used "VFPPVnoCTB,beamLine" options
- P13ib production of all stream data with finalized calibrations and [library SL13b](#); TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, Vertex finder used "VFPPVnoCTB,beamLine" options.

## AuAu 200GeV, run 2011 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays),ftpc, emc, eemc, bsmc, esmd, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu200\_production\_2011;  
all stream data: st\_physics, st\_gamma, st\_ftpc, st\_hlt, st\_ht, st\_mtd, st\_upc, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2011](#) Web page.

### Production Series

- P11id production with [library SL11d](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations.  
Vertex finder used "VFMinuit" option with parameters: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.

## pp 500GeV, run 2011 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), emc, eemc, bsmc, esmd, mtd, fms; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- pp500\_production\_2011\_long;
- pp500\_production\_2011;
- pp500\_production\_2011\_noemc;  
all stream data: st\_physics, st\_W, st\_hlt, st\_fms, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2011](#) Web page.

### Production Series

- P11id production with [library SL11d](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations. Vertex finder used "VFPPVnoCTB,beamLine" options.

## AuAu 27GeV, run 2011 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, emc, bsmd, pmd, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu27\_production\_2011, all stream data: st\_physics, st\_hlt, st\_ht, st\_pmdftp, st\_mtd, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2011](#) Web page.

### Production Series

- P11id production with [library SL11d](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations. Vertex finder used: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 5.

## AuAu 19.6GeV, run 2011 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu19\_production, all stream data: st\_physics, st\_hlt, st\_ht, st\_pmdftp, st\_zerobias ;

Trigger set and stream data description could be found on [Trigger 2011](#) Web page.

### Production Series

- **P11ic preproduction** with [library SL11c](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, used initial calibrations.  
Vertex finder used: DcaMax = 6cm, RImpactMax = 6cm, minTrack = 2.  
**Production was removed after rerunning in P11id.**
- **P11id production** with [library SL11d](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, final calibrations.  
Vertex finder used: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 2.

## AuAu 200GeV, run 2010 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, eemc, bsmc, esmd ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu200\_production,  
st\_physics, st\_atomcules, st\_gamma, st\_hlt, st\_ht, st\_mtd, st\_pmdftp, st\_upc, st\_upsilon, st\_zerobias stream data ;

Trigger set description could be found on [Trigger 2010](#) Web page and stream data description on [stream's page](#)

### Production Series

- **P10ih** st\_hlt stream data preproduction with [library SL10h](#), TPC(TPX) tracking and new daq/daq1000 reader. Calibrations are NOT final.  
Vertex finder used: DcaMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.  
**P10ih preproduction was rerun in P10ik and dropped**
- **P10ij** (limited dataset) with [library SL10j](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, complete calibrations.  
Vertex finder used: DcaMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.  
Production has a problem with BSMDe mapping which is not correct. **P10ij production was rerun in P10ik and dropped.**
- **P10ik** with [library SL10k](#); with TPX (TPC + daq1000 electronics) tracking & new daq/daq1000 reader, complete calibrations, fixed BSMDe mapping.  
Vertex finder used: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5. Geometry used was 'ry2010' which is equivalent to 'ry2010a' without PMD.

## AuAu 62GeV, run 2010 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, eemc, bsmc, esmd ; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets



- AuAu62\_production,  
st\_physics, st\_ht, st\_hlt, st\_atomcules, st\_mtd, st\_monitor, st\_pmdftp, st\_upc, st\_zerobias, stream data preproduction;

Trigger set description could be found in [Trigger 2010](#) Web page and stream data description on [stream's page](#)

## Production Series

- **P10ih** st\_hlt stream data preproduction with [library SL10h](#); with TPC (TPX) tracking & new daq/daq1000 reader. Calibrations are NOT final  
Vertex finder used: DcaMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.  
**P10ih preproduction was rerun in P10ik and dropped**
- P10ik with [library SL10k](#); with TPC (TPX) tracking & new daq/daq1000 reader.  
Vertex finder used: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5. Complete dataset production, final calibrations. Geometry used was 'ry2010' which is equivalent to 'ry2010a' without PMD.

## AuAu 39GeV, run 2010 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, bsmd set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

## Trigger sets

- AuAu39\_production  
st\_physics, st\_ht, st\_hlt, st\_mtd, st\_monitor, st\_pmdftp, st\_upc, st\_zerobias streams data ;

Trigger set description could be found in [Trigger 2010](#) Web page and stream data description on [stream's page](#)

## Production Series

- **P10ih** limited dataset production with [library SL10h](#); with TPC (TPX) tracking & new daq/daq1000 reader.  
Vertex finder used: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5.  
30M events for selected run numbers + all st\_ht & st\_upc stream data requested for QM2011.  
**Production was rerun in P10ik production and removed .**
- P10ik complete dataset production with [library SL10k](#); with TPC (TPX) tracking & new daq/daq1000 reader.  
Vertex finder used: DcaZMax = 3cm, RImpactMax = 1.5cm, minTrack = 5. Complete calibrations. Geometry used was 'ry2010' which is equivalent to 'ry2010a' without PMD.

## AuAu 7.7GeV, run 2010 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, bsmc set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu7\_production  
st\_physics, st\_ht, st\_hlt, st\_mtd, st\_monitor, st\_zerobias, st\_pmdftp streams data ;

Trigger set description could be found in [Trigger 2010](#) Web page and stream data description on [stream's page](#)

### Production Series

- P10ih with [library SL10h](#); with TPC (TPX) tracking & new daq/daq1000 reader.  
Vertex finder used: DcaZMax = 6cm, RImpactMax = 6cm, minTrack = 2. Geometry used was 'ry2010' which is equivalent to 'ry2010a' without PMD.

## AuAu 11.5GeV, run 2010 data production

next detectors are on: tpx (tpc with daq1000 electronics), tof (complete trays), ftpc, pmd, emc, mtd; set of detectors varies with run numbers

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- AuAu11\_production  
st\_physics, st\_hlt, st\_mtd, st\_monitor, st\_zerobias streams data ;

Trigger set description could be found in [Trigger 2010](#) Web page and stream data description on [stream's page](#)

### Production Series

- P10ih with [library SL10h](#); with TPC (TPX) tracking & new daq/daq1000 reader.  
Vertex finder used: DcaMax = 6cm, RImpactMax = 6cm, minTrack = 2. Geometry used was 'ry2010' which is equivalent to 'ry2010a' without PMD.

## pp 200GeV, run 2009 st\_gamma, st\_hlt, st\_mtd, st\_upsilon, st\_physics, st\_fmsfast, st\_zerobias data production

next detectors are on: tpx (tpc with daq1000 electronics), emc, eemc, bsmd, esmd, tof ; set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- production2009\_200Gev\_Single;
- production2009\_200Gev\_Hi;
- production2009\_200Gev\_Lo;
- production2009\_200Gev\_nocal;
- production2009\_200Gev\_noendcap;
- low\_luminosity2009;
- tof\_production2009\_single;
- tof\_prepost\_himult;
- zdc\_polarimetry;
- vernier\_scan;
- commision2009\_200Gev\_Hi;
- commision2009\_200Gev\_Lo;

### pp2pp trigger sets; st\_physics & st\_minbias files

- pp2pp\_Production2009;
- pp2pp\_VPDMB;
- pp2ppStrawMan;

Trigger set description could be found in [Trigger 2009](#) Web page

### Production Series

- P10ic with [library SL10c](#); with TPC(TPX) tracking ( ITTF code) & new daq/daq1000 reader.
- P11id reproduction with [SL11d library](#). ( pp2pp data are not included ). New TPC corrections were used with applied year 2000 sectors alignment.

## pp 500GeV, run 2009 st\_physics data production

next detectors are on: tpx (tpc with daq1000 electronics), emc, eemc, bsmd, esmd, tof ; set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- production2009\_500GeV;
- production2009\_500Gev\_c;
- production2009\_500Gev\_b;
- production2009\_500GeV\_carl;
- production2009\_500Gev\_25;
- vpd\_minbias;
- productionZDCpolarimetry;
- lowLuminosity2009;

Trigger set description could be found in [Trigger 2009](#) Web page

### Production Series

- P09ig with [library SL09g](#) ; with TPC (TPX) tracking ( ITTF code) & new daq/daq1000 reader.
- P11id production for lowLuminosity2009 dataset.
- P16ib production for lowLuminosity2009 dataset with new TOF calibrations using timestamp: DbV20151021\_TOF\_Calibrations .

## pp 500GeV, run 2009 W data production

### st\_W data files

next detectors are on: tpx (tpc with daq1000 electronics), emc, eemc, bsmd, esmd, tof ; set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPX (TPC with daq1000), ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

### Trigger sets

- production2009\_500GeV;
- production2009\_500Gev\_c;
- production2009\_500Gev\_b;
- production2009\_500GeV\_carl;

- production2009\_500Gev\_25;
- physics2009\_early\_b;
- test2009\_carl;
- testtier0325;
- teest2009\_carl\_b;
- test2009\_carl\_hi\_thr;
- vernier\_scan, st\_physics, (selected run numbers);

Trigger set description could be found in [Trigger 2009](#) Web page

## Production Series

- P09ib run with [library SL09b](#). **Production was removed.**; with TPC tracking ( ITTF code) & new daq/daq1000 reader. Calibrations are not final, this is preproduction.
- P09ig with [library SL09g](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader. Calibrations are final.
- P10ij with [library SL10j](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader. Improved TPC alignment and calibrations.  
Production has software bug for tracks with  $P_t \geq 20 \text{ GeV/c}$  **Production was removed.**
- P11ib with [library SL11b](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader. Fixed bug for tracks with  $P_t \geq 20 \text{ GeV/c}$

## auau 9GeV, run 2008 data production

next detectors are on: tpc, tof, ftpc, emc, eemc, bsmd, esmd, tpx (daq1000 sectors); set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction.

## Trigger sets

- lowEnergy2008;
- bbcvdp;

## Production Series

- P08ic run with [library SL08c](#); with TPC tracking, ITTF code;

## pp 200GeV, run 2008 data production

st\_physics, st\_fmsslow data

next detectors are on: tpc, tof, ftpc, emc, eemc, bsmc, esmd, tpx (daq1000 sectors); set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

st\_fmsfast data:

next detectors are on: emc, eemc, bsmc, esmd.

### Trigger sets

- ppProduction2008;
- ppProduction2008-2;

Trigger set description could be found in [Trigger 2008](#) Web page

### Production Series

- P08ie run with [library SL08e](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader.

st\_toftpx, st\_mtd stream data, the same trigger set

### Production Series

- P08ie run with [library SL08c](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader.
- P08ie rerun with [library SL08e](#); with improved Space Charge correction and vertex finder.

### dAu 200GeV, run 2008 data production

next detectors are on: tpc, tof, ftpc, emc, eemc, bsmc, esmd, tpx (daq1000 sectors); set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, Space Charge and Grid Leak 3D corrections.

st\_fast data includes only emc, eemc, bsmc, esmd detectors.

Trigger set description could be found in [Trigger 2008](#) Web page

**Main data: st\_physics; stream data: st\_mtd, st\_upsilon; fast detector data (includes only emc, eemc, bsmd, esmd detectors): st\_fast ;**

#### **Trigger sets**

- production\_dAu2008;
- production\_mb2008;

#### **Production Series**

- P08ic run with [library SL08c](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader.
- P08ie run with [library SL08e](#); with TPC tracking ( ITTF code) & new daq/daq1000 reader rerun with improved Space Charge corrections.

#### **Trigger sets**

- production\_PMD2008, st\_physics, st\_fast data;

#### **Production Series**

- P08if run with [library SL08f](#); with TPC tracking, ITTF code;

### **AuAu 200GeV, run 2007, main stream st\_physics and st\_btag data production**

next detectors are on: tpc, svt, ssd, tof, ftpc, pmd, emc, eemc, bsmd, esmd; set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge and Grid Leak 3D corrections.

#### **Trigger sets**

- 2007LowLuminosity;
- 2007ProductionMinBias;
- 2007Production2;

Trigger set description could be found in [Trigger 2007](#) Web page

#### **Production Series**

- P08ic run with [library SL08c](#); TPC+SVT+SSD tracking with ITTF codes.

**AuAu 200GeV, run 2007, trigger data production; files: st\_gamma, st\_mtd, st\_upsilon, st\_upc ;**

**AuAu 200GeV, PMD production, selected run numbers;**

next detectors are on: tpc, svt, ssd, tof, ftpc, pmd, emc, eemc, bsmc, esmd; set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment for TPC, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge and Grid Leak 3D corrections.

### Trigger sets

- 2007ProductionMinBias;
- 2007Production2;

Trigger set description could be found in [Trigger 2007](#) Web page

### Production Series

- P07id run with [library SL07d](#); TPC tracking only with ITTF codes (no st\_upc data).
- P08ib run with [library SL08b](#); st\_upc data only: TPC tracking with old TPT and ppLMV codes;
- P08ic run with [library SL08c](#); st\_upsilon data only rerun with TPC tracking only with ITTF code and geometry [y2007g](#) ;

**pp 200GeV, run 2006, production with ITTF code**

next detectors are on: tpc, svt, emc, eemc, ftpc, fpd, bsmc, esmd. Set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, beamline constraint, space charge and Grid Leak 3D corrections.

### Trigger sets

- ppProductionTrans;
- ppProductionTransNoEMC;
- ppProductionTransFPDonly;
- ppProductionLong;
- ppProductionLongNoEmc;



- ppProductionJPsi;
- pp2006MinBias;
- ppProduction;
- barrelBackground;
- ppEmcCheck;
- ppEmcBackgroundCheck;
- muonminbias;

Trigger set description could be found in [Trigger 2006](#) Web page

## Production Series

- P06ie run with [library SL06e](#)  
no SVT in reconstruction, vertex finder PPV (tuned for run 2006 data) for piled-up events with 'no CTB' was used.  
Fully calibrated.
- st\_upsilon stream data have been rerun in P08ic with [library SL08c](#)  
and the same reco options but with updated year 2006g geometry including dead material. Calibrations came with the same DbV timestamp.

## pp 62GeV, run 2006, production with ITTF code

next detectors are on : tpc, emc, eemc, bsmd, esmd, ftpc, fpd, ssd. Set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, beamline constraint. NO space charge and Grid Leak corrections.

## Trigger sets

- ppProduction62;
- ppProductionMB62;
- barrelBackground62;

Trigger set description could be found in [Trigger 2006](#) Web page

## Production Series

- P06ie run with [library SL06e](#)  
no SVT in reconstruction, vertex finder PPV (tuned for run 2006 data) for piled-up events with 'no CTB' was used.  
Fully calibrated. **Production was removed after P12ia reproduction has been done .**

- P12ia run with [library SL12a](#)  
The same chain, calibrations and vertex finder were used ( vertex finder was modified to reject pileup events for latest runs ).

## pp 200GeV, run 2006, J/Psi trigged files; production with ITTF code (preliminary production)

next detectors are on: tpc, svt, emc, eemc, ftpc, fpd, bsmd, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, beamline constraint, space charge and Grid Leak 3D corrections.

### Trigger sets

- ppProductionJPsi;
- ppProductionTrans, st\_jpsi files;
- ppProductionLong, st\_jpsi files;

Trigger set description could be found in [Trigger 2006](#) Web page

### Production Series

- P06id run with [library SL06d](#) (tagged as SL06d\_2)  
no SVT in reconstruction, vertex finder PPV for piled-up events with 'no CTB' was used.  
Production was used as first round, test production because calibrations weren't complete at that time for run 2006:  
EMC isn't fully calibrated; PPV vertex finder wasn't tuned for pileup effect for run 2006; beamline constraint didn't include space charge and Grid Leak 3D corrections, not accurate.

## pp 200GeV & 400GeV run 2005, production with ITTF code without SVT reconstruction

next detectors are on: tpc, svt, tof, emc, ftpc, ssd, eemc, bsmd, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, beamline constraint, space charge and Grid Leak 3D corrections.

### Trigger sets

- ppProductionMinBias
- ppProduction
- ppTransProductionMinBias
- ppTransProduction

- ppEmcBackgroundCheck
- ppEmcCheck
- Jpsi
- pp400Production
- pp400MinBias
- eemc\_led
- ppVHM

Trigger set description could be found in [Trigger 2005](#) Web page

### Production Series

- P05if, run with [library SL05f](#)  
no SVT & SSD in reconstruction, multiple vertices finding code (due to pileup in the events), CTB vertex matching

### CuCu 22GeV run 2005, production with TPT+EST codes

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, ssd, eemc, bsmd, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, space charge and Grid Leak 3D corrections.

### Trigger set

- cu22ProductionMinBias

Trigger set description could be found in [Trigger 2005 page](#)

### Production Series

- P05if, run with [library SL05f](#)  
no SSD in reconstruction, TOF processing includes only raw data.
- P17ii reproduction with [library SL17i](#) with TPC tracking only and Sti tracking code.  
**MuDst** -> **picoDst** conversion was run with [SL18b library](#) and chain:  
"picoDst PicoVtxMode:PicoVtxDefault" .

### CuCu 62GeV run 2005, production with TPT+EST codes

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, ssd, eemc, bsmd, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge and Grid Leak corrections.

## Trigger set

- cu62productionMinBias

Trigger set description could be found in [Trigger 2005 page](#)

## Production Series

- P05id, run with [library SL05d](#)  
no SSD in reconstruction, TOF processing includes only raw data.
- **P07ib**, run with [library SL07b](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present; Production had problem due to bug in EMC & SSD codes caused memory overwriting in some events; **production was dropped** ;
- P07ic, run with [library SL07c](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking only (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present; bug in EMC & SSD codes caused memory overwriting has been fixed.
- P17ii, reproduction with [library SL17i](#) with TPC tracking only and Sti tracking code;  
**MuDst -> picoDst** conversion was run with [SL18b library](#) and chain:  
"picoDst PicoVtxMode:PicoVtxDefault" .

## CuCu 200GeV run 2005

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, ssd, eemc, bsmd, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge and Grid Leak corrections.

## Trigger set

- cuProductionMinBias

Trigger set description could be found in [Trigger 2005 page](#)

## Production Series

- P05id, run with [library SL05d](#)  
no SSD in reconstruction, TOF processing includes only raw data;  
selected run numbers with lowest luminosity processed with TPT+EST codes.
- P06ib, run with [library SL06b](#) and ITTF code;  
no SVT & SSD in reconstruction, TOF processing includes only raw data;  
Production used multiple vertices finder code which handle pile-up events at high luminosity; EMC track matching was used for vertex ranking;  
BEMC was fully commissioned for **run numbers  $\geq 6031103$**  and for lower run numbers there could be some uncertainty with BEMC gain and overall performance. Analysis posted on the [page](#) show that vertex finding algorithm works well even with partially working BEMC.  
The remaining contamination of pile-up vertices could be cut off using rank of best vertex, rank  $>-3$  ;  
run numbers without EMC detector in WERE NOT processed in this production.
- **P07ib**, run with [library SL07b](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking only (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present;  
Production had problem due to bug in EMC & SSD codes caused memory overwriting in some events; **production was dropped**;
- P07ic, run with [library SL07c](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking only (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present; bug in EMC & SSD codes caused memory overwriting has been fixed.
- P17ii reproduction with [library SL17i](#) with TPC tracking only and Sti tracking code. **MuDst** -> **picoDst** conversion was run with [SL18b library](#) and chain:  
"picoDst PicoVtxMode:PicoVtxDefault" .

## Trigger set

- cuProductionHighTower

Trigger set description could be found in [Trigger 2005 page](#)

## Production Series

- P06ib, run with [library SL06b](#) and ITTF code;  
no SVT & SSD in reconstruction, TOF processing includes only raw data;  
Production used multiple vertices finder code which handle pile-up events at high luminosity; EMC track matching was used for vertex ranking;  
**run numbers  $\geq 6031103$**  have been processed which have good EMC calibrations;  
run numbers without EMC detector in WERE NOT processed in this production.
- **P07ib**, run with [library SL07b](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking only (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present;  
Production had problem due to bug in EMC & SSD codes caused memory overwriting in some events; **production was dropped**;
- P07ic, run with [library SL07c](#) and ITTF code with TPC+SVT+SSD tracking for run numbers with complete tracking detectors set; production was running with TPC tracking only (TPC+SVT or TPC+SSD tracking) if both detectors SVT & SSD or one of them were not present; bug in EMC & SSD codes caused memory overwriting has been fixed.
- P17ii reproduction with [library SL17i](#) with TPC tracking only and Sti tracking code. **MuDst** -> **picoDst** conversion was run with [SL18b library](#) and chain:  
"picoDst PicoVtxMode:PicoVtxDefault" .

## AuAu 200GeV, run 2004, production with TPT+EST codes

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, eemc, bsmc, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge and Grid Leak corrections.

Run numbers from the range 5069085 - 5072056 have been excluded from the production due to corrupted SVT & FTPC raw data and calibration problem.

Run numbers below 5042040 for productionMid/High/Low have 'minbias' trigger ID 15007 which isn't really 'minbias' but has 50% of central cut.

**DO NOT USE trigger ID = 15007 for run numbers < 5042040**

### Trigger set

- productionMid
- productionHigh
- productionLow
- productionHalfHigh
- productionHalfLow
- productionCentral
- productionMinBias

Trigger set description could be found in [Trigger 2004 page](#)

### Production Series

- P05ic, run with [library SL05c](#)  
East FTPC gain table has been fixed.
- P05ib, run with [library SL05b](#) (run only for productionMid, small datasample, production is complementary to P05ic)  
DB scale factor for magnetic field and StTpcDbMaker bug were fixed, East FTPC data have offset due to wrong gain table, not recommended to use for FTPC data.

### Trigger set

- productionMinBias ( run numbers > 5023098 )

### Production Series

- P05ia, run with [library SL05a](#)  
due to bug in StTpcDbMaker Twist correction for high Pt tracks isn't set properly; Ftpc (West) tracking is set correctly in files produced after March 2.

## AuAu 200GeV, express stream data, run 2004, production with TPT+EST codes

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge. **Data are dublic in st\_physics files.**

### Trigger sets

- productionHigh
- productionMid
- productionLow

### Production Series

- P05ib, run with [library SL05b](#) with Grid Leak corrections
- P04ik, run with [library SL04ik](#) no Grid Leak corrections, not recommended to use for analysis. **REMOVED from local, NFS area and FileCatalog**

## AuAu 200GeV, run 2004, production with TPT+EST codes.

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, eemc, bsmc, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction, EbyE space charge corrections, no Grid leak corrections, magnetic field scale factor slightly isn't correct for HalfField data but MuDst data were rerun and replaced with momentum shift corrections corresponding to the right value of magnetic field. Not recommended to use for analysis.

### Next trigger sets are processed:

- productionHalfLow
- productionHigh
- productionHalfHigh

Trigger set description could be found in [Trigger 2004 page](#)

### Production Series

- P04ik, run with [library SL04k](#); **REMOVED from local, NFS area and FileCatalog**

## pp 200GeV, run 2004 productions (st\_physics, st\_fast, st\_zerobias files)

next detectors are on: tpc, svt, tof, emc, ftpc, pmd, eemc, bsmc, esmd but set of detectors varies with run numbers.

Corrections included in TPC reconstruction: Shorted Ring correction, Space Charge R2 correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction.

Next trigger sets have been processed:

- productionPP
- productionPPnoBarrel
- productionPPnoEndcap
- ppMinBias
- pp (no in P04ij production)

Trigger set description could be found in [Trigger 2004 page](#)

### Production Series

- P04ij production with ITTF chain, selected run numbers, run with [library SL04j](#)
- P04ik production with TPT+EST chain, run with [library SL04k](#)

## AuAu 62 GeV, production62GeV trigger set, year 2004 production

next detectors are on tpc, svt, tof, emc, ftpc, pmd, ssd, eemc, bsmc, esmd

description of detector's geometry and status for run 2004 you can find [here](#);

Corrections included in TPC reconstruction: Shorted Ring correction, Space Charge R2 correction, sectors alignment, ExB correction, ExB 2D shape correction, ExB twist correction, clock correction, padRow 13 distortion, Field Cage correction.

Trigger set description could be found in [Trigger 2004 page](#)

- production62GeV

### Production Series

- P05ic, run with [library SL05c](#), fixed FTPC Est gain table, GridLeak corrections turned on; selected run numbers with limited statistics for FTPC group request.
- P04id, run with [library SL04d](#)



- P04ie, run with [library SL04e](#) - complementary to P04id; no GridLeak corrections in these last two productions; FTPC Est gain table is not correct.

## pp 200 GeV ppLongRamp trigger set, year 2003 production

fpd, emc, eemc (1/3d of one cap) detectors are on, same run number have ftpc on

- ppLongRamp

### Production Series

- P03ih, run with [library SL03h](#)

## pp 200 GeV ppTune trigger set, year 2003 production

only fpd detector is on

- ppTune

### Production Series

- P03if, run with [library SL03f](#)

## pp 200 GeV year 2003 production

tpc, svt, fpd, ftpc, half of barrel EMC, EEMC (1/3th of one cap), one TRAY of TOF detectors processed in reconstruction, next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction, St\_tpcdaq\_Maker has been fixed in this library not to skip events if there are no tpc hits found, all other detectors processed if there are no TPC on, spin bits included in StEvent

Trigger set, description could be found in [Star Trigger for Run 2003](#) document

- ppMinBias
- ppTrans-1
- ppLong-1

## Production Series

- P03ie, run with [library SL03e](#); **REMOVED from local, NFS area and FileCatalog**
- P03ih, run with [library SL03h](#),  
has corrected ftpc, EMC and dEdx calibrations, new V0 and Xi vertex finding code

## pp 200 GeV year 2003 production

tpc, svt, fpd, ftpc, half of barrel EMC, EEMC (1/3th of one cap), one TRAY of TOF detectors processed in reconstruction, next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction, only events which have tpc hits were reconstructed

Trigger set, description could be found in [Star Trigger for Run 2003](#) document

- ppFPDToFu

## Production Series

- P03id, run with [library SL03d](#), only events with found TPC hits have been processed; **REMOVED from local, NFS area and FileCatalog**
- P03ie, run with [library SL03e](#), all events have been processed through reconstruction; **REMOVED from local, NFS area and FileCatalog**
- P03ih run with [library SL03h](#), has corrected ftpc, EMC and dEdx calibrations (some problem with dEdx), new V0 and Xi vertex finding code

## DeuteronAu 200 GeV year 2003 production

tpc, ftpc, fpd detectors processed in reconstruction, next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction

Trigger set, description could be found in [Star Trigger for Run 2003](#) document

- dAuFPD

## Production Series

- P03id, run with [library SL03d](#); **REMOVED from local, NFS area and FileCatalog**
- P03ig, run with [library SL03g](#), has corrected ftpc calibrations; **REMOVED from local, NFS area and FileCatalog**
- P03ih run with [library SL03h](#), has corrected ftpc, EMC and dEdx calibrations (some problem with dEdx), new V0 and Xi vertex finding code

## DeuteronAu 200 GeV year 2003 production

tpc, ftpc, svt, fpd, half of barrel EMC, one TRAY of TOF detectors processed in reconstruction, next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction

Trigger set, description could be found in [Star Trigger for Run 2003](#) document

- dAuMinBias
- dAuCombined
- UPCCCombined
- dAuTOF

### Production Series

- P03ia, run with [library SL03a](#) EMC calibrations aren't correct;
- P03ih, run with [library SL03h](#) has corrected ftpc, EMC and dEdx calibrations (some problem with dEdx), new V0 and Xi vertex finding code; **REMOVED from local, NFS area and FileCatalog** except for **dAuMinBias**
- P04if, run with [library SL04f](#) more correction on ftpc, EMC and dEdx calibrations.

## Proton-Proton 200 GeV year 2001-2002 production

tpc, ftpc, fpd, rich, quarter of barrel EMC detectors processed in reconstruction, svt hits are written; next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction

Trigger set, description could be found in [Star Trigger for Run 2001](#) document

- ppMinBias
- FPDxmas
- FPDtbEMCproduction
- FPDEMCproduction
- fpdTrigger
- fpdTopBottom
- bbcTrigger

### Production Series

- P02ge, run with [library SL02e](#) (see above for production description)
- P03gi, ppMinBias events run with [library SL02i](#), selected run numbers processed with track reconstruction using SVT (EST code), test production; **REMOVED from local, NFS area and FileCatalog**;
- P03if, ppMinBias events run with [library SL03f](#), requested by SVT group. Revised SVT calibrations, EST tracking, some problem with dEdx corrections.

## AuAu 200 GeV year 2001 production

tpc, rich, ftpc, quarter of barrel EMC detectors processed in reconstruction; next TPC corrections are included: sector alignment, ExB, ExB shape, twist correction, clock correction, padrow 13th field correction (padrow 13th was taking off for tracking), field Cage correction, space charge correction

Trigger sets, description could be found in [Star Trigger for Run 2001](#) document

- ProductionMinBias
- MinBiasVertex
- productionCentral
- productionCentral600
- productionCentral1200
- topology

## Production Series

- P02gc, run with [library SL02c](#)
- P02gd, run with [library SL02d](#), few bugs in the codes have been fixed, the most important fixes related to embedding, dEdx and MuDst codes.
- P02ge, run with [library SL02e](#), V0 integrated in common MuDst, ftpc and svt codes developed, QA histos added, ppLMV for pp run updated, calibrations for pp run processed and put in DB.

All production series add each other and should be used in analysis for complete statistics. MuDst files from P02gc, P02gd and earlier P02ge productions have been reproduced with SL02e library to fix V0 MuDst, so all MuDst files have the same structure

## AuAu 20 GeV year 2001 production (Half Field data)

tpc, ftpc, quarter of EMC detectors processed in reconstruction

Trigger set

- minBias22GeVZDC

## Production Series

- P02ge, run with [library SL02e](#)
- P07id, run with [library SL07d](#)

## AuAu 130 GeV year 2000 production

tpc and rich detectors processed in reconstruction

### Trigger sets

- minbias
- central

## Production Series

- P00hi, run with [library SL00i](#) - first and the most complete production, processed all run numbers in parallel with data taking, tpc driftvelocity calibrations produced on-fly with T0 method, production includes bad run numbers, no proper corrections;
- P00hm, run with [library SL00m](#), new features: improved vertex and V0 finding codes, modified RICH code, added ExB and 10th padrow corrections, several bug fixed;
- P01he, run with [library SL01e](#), bad dE/dx for globals, bad distortion corrections;
- P01hi, run with [library SL01i](#), most complete corrections: sector alignment implemented, inner/outer z offset adjusted to remove residual step between inner and outer sector, gain and local t0 corrections revisited, tpc driftvelocity calibrations recreated and put in DB, ExB shape corrections, padrow 13th field correction (padrow 13th was taking off for tracking), clock correction, no vertex offset has been used.

All other real data productions found in FileCatalog are test or side productions by special requests, they are recorded but should not be used for physics analysis

[\*Lidia Didenko\*](#)