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# Upgrade Detector Combination Examples

Some example configurations for users. At some point there will be a set of "official" configurations defined but the ability to create and use your own configuration will still exist until the Upgrade detectors are confirmed.

Any of the options below can be written into a separate python file and included on the command line.

## Example options with common parts and how to set specific configurations

A main steering example options, **Gauss-Upgrade.py** is provided from Gauss v42r2 and can be run as-is or modified as needed. In production this is replaced by the set of options or parameters controlled by the production system specifying:

1. the beam conditions
2. the event type
3. the generator to be used
4. the database tags
5. the detector configuration
6. the g4 settings

An example of how to use these example options to produce minimum bias events with Pythia6 is:

```
gaudirun.py $GAUSSOPTS/Gauss-Upgrade.py $DECFILESOPTS/30000000.py $LBPYTHIAROOT/options/Pythia6
```

Gauss-Job.py is the example on how to set up number of events, random seeds, output file name, and other options specific for a single job.

## General Settings for DDDB and SIMCOND

An example of how this is done is provided in **Gauss-Upgrade.py**. The following requires latest versions of various packages, which may not be part of latest release. The Lines are:

```
from Gaudi.Configuration import *
from Configurables import LHCbApp
from Configurables import CondDB
CondDB().Upgrade = True
CondDB().LoadCALIBDB="HLT1"

Latest global Tag as of Oct 9 2017
LHCbApp().DDDBtag = "dddb-20171009"
LHCbApp().CondDBtag = "sim-20170301-vc-md100" (for magnet down)
LHCbApp().CondDBtag = "sim-20170301-vc-mu100" (for magnet up)

Latest global Tag as of July26 2017

LHCbApp().DDDBtag = "dddb-20170726"
LHCbApp().CondDBtag = "sim-20170301-vc-md100" (for magnet down)
LHCbApp().CondDBtag = "sim-20170301-vc-mu100" (for magnet up)

Latest global tag as of March01, 2017
(with recent FT and Magfield updates)
LHCbApp().DDDBtag = "dddb-20170301"
LHCbApp().CondDBtag = "sim-20170301-vc-md100" (for magnet down)
```

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LHCbApp().CondDBtag = "sim-20170301-vc-mu100" (for magnet up)

Latest global tag as of Feb28, 2017  
(without recent FT)

LHCbApp().DDDBtag = "dddb-20170228"  
LHCbApp().CondDBtag = "sim-20170228-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20170228-vc-mu100" (for magnet up)

Latest global tag as of Feb18, 2017  
(without recent FT)

LHCbApp().DDDBtag = "dddb-20170218"  
LHCbApp().CondDBtag = "sim-20160927-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20161111-vc-mu100" (for magnet up)

Latest global tag as of Feb15, 2017  
(with recent FT)

LHCbApp().DDDBtag = "dddb-20170215"  
LHCbApp().CondDBtag = "sim-20170210-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20170210-vc-mu100" (for magnet up)

Latest global tag as of Feb11, 2017

LHCbApp().DDDBtag = "dddb-20170211"  
LHCbApp().CondDBtag = "sim-20170210-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20170210-vc-mu100" (for magnet up)

Latest global tag as of December 01, 2016

LHCbApp().DDDBtag = "dddb-20161201"  
LHCbApp().CondDBtag = "sim-20160927-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20161111-vc-mu100" (for magnet up)

Latest global tag as of November 17, 2016

LHCbApp().DDDBtag = "dddb-20161117"  
LHCbApp().CondDBtag = "sim-20160927-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20161111-vc-mu100" (for magnet up)

Latest global tag as of November 11, 2016

LHCbApp().DDDBtag = "dddb-20161111"  
LHCbApp().CondDBtag = "sim-20160927-vc-md100" (for magnet down)  
LHCbApp().CondDBtag = "sim-20161111-vc-mu100" (for magnet up)

Latest global tag as of November 10, 2016

LHCbApp().DDDBtag = "dddb-20161110"  
LHCbApp().CondDBtag = "sim-20150716-vc-md100" (for magnet down)

Latest global tag as of Mach4, 2016

LHCbApp().DDDBtag = "dddb-20160304"  
LHCbApp().CondDBtag = "sim-20150716-vc-md100" (for magnet down)

Latest global tag as of July-29-2015

LHCbApp().DDDBtag = "dddb-20150729"  
LHCbApp().CondDBtag = "sim-20150716-vc-md100" (for magnet down)

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Latest global tag as of July-16-2015

```
LHCbApp().DDDBtag = "dddb-20150702"  
LHCbApp().CondDBtag = "sim-20150716-vc-md100" (for magnet down)
```

```
LHCbApp().CondDBtag = "sim-20150716-vc-mu100" (for magnet up)
```

Latest global tag as of July-02-2015

```
LHCbApp().DDDBtag = "dddb-20150702"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of April24-2015

```
LHCbApp().DDDBtag = "dddb-20150424"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of April14-2015

```
LHCbApp().DDDBtag = "dddb-20150414"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of Nov21,2014

```
LHCbApp().DDDBtag = "dddb-20141121"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of Oct 15 , 2014

```
LHCbApp().DDDBtag = "dddb-20141015"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of Oct 14 , 2014

```
LHCbApp().DDDBtag = "dddb-20141014"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of Oct 3 , 2014

```
LHCbApp().DDDBtag = "dddb-20141003"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

Latest global tag as of Sept 22 , 2014

```
LHCbApp().DDDBtag = "dddb-20140922"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down)
```

```
LHCbApp().CondDBtag = "sim-20140825-vc-mu100" (for magnet up)
```

Latest global tag as of June06, 2014

```
LHCbApp().DDDBtag = "dddb-20140606"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100"
```

Latest global tag as of March 06, 2014

```
LHCbApp().DDDBtag = "dddb-20140306"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100"
```

## GeometryActivationExamples < LHCb < TWiki

This has the materials update for the hcal shielding plug, in addition to that on Feb13-2014.

For using the default of all detector options as of Feb13-2014 </br>

```
LHCbApp().DDDBtag = "dddb-20140213"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100"
```

This has by default the VP, UT, Rich-2019, FT stereoangle5, NoM1 and NoSpdPrs. It already includes global tag of Feb04-2014, described below.

For using the UT DB updates from February04-2014 onwards

```
LHCbApp().DDDBtag = "dddb-20140204"  
LHCbApp().CondDBtag = "sim-20140204-vc-md100"
```

For using the UT readout upgrade from Nov08-2013 onwards

```
LHCbApp().DDDBtag = "dddb-20131108"  
LHCbApp().CondDBtag = "sim-20131108-vc-md100"
```

For using upgraded VP from October 25 - 2013 onwards

```
LHCbApp().DDDBtag = "dddb-20131025"  
LHCbApp().CondDBtag = "sim-20130830-vc-md100"
```

For using the new default configuration with VP\_microchanel, RICH2019, UT+FT-stereoangle5 and as another option activate SL +OT (instead of FT) from October 09 - 2013 onwards

```
LHCbApp().DDDBtag = "dddb-20131009"  
LHCbApp().CondDBtag = "sim-20130830-vc-md100"
```

For using the new default configuration with VP\_microchanel, RICH2019, UT+FT-stereoangle5 and as from Sept 30 - 2013 onwards

```
LHCbApp().DDDBtag = "dddb-20131007"  
LHCbApp().CondDBtag = "sim-20130830-vc-md100"
```

For using the new default configuration with VP\_microchanel, RICH2019, UT+FT-stereoangle5 from August 31-2013 onwards

```
LHCbApp().DDDBtag = "dddb-20130831"  
LHCbApp().CondDBtag = "sim-20130830-vc-md100"
```

For using the RICH2019-upgrade modifications from August 08, 2013 onwards

```
LHCbApp().DDDBtag = "dddb-20130808"  
LHCbApp().CondDBtag = "sim-20130722-vc-md100"
```

For the latest DataBase from Aug6, 2013 onwards,

```
LHCbApp().DDDBtag = "dddb-20130806"  
LHCbApp().CondDBtag = "sim-20130722-vc-md100"
```

For example this is needed for the FT tests being done in August 2013 .

To use with the software releases until mid July 2013, one may use the following two lines

```
LHCbApp().DDDBtag = "dddb-20130408"  
LHCbApp().CondDBtag = "simcond-20121001-vc-md100"
```

1. CondDB().Upgrade = True triggers the machinery to connect to the correct databases for the upgrade. Both DDDB and SIMCOND are provided (they need to be synchronized) and are located in a completely separate database pointed at via \$SQLITEUPGRADEDDBPATH. **Important** : The very first database for upgrade studies, DDDB\_upgrade.db located in \$SQLITEDBPATH is obsolete and should NOT be used.

1. LHCbApp().DDDBtag and LHCbApp().ConDBtag define the global tags to be used, so a snapshot of the description of all upgrade detectors. If nothing else is specified a given combination is assumed. With the current global tags this is the reference detector, where the only change with respect to the running LHCb detector is in the RICHes with MapPMT and no Aerogel. New global tags should be set in LHCbApp().DDDBtag and LHCbApp().ConDBtag when needed. The intention is to keep the one distributed with Gauss up to date with the latest available global tags.

The instructions below are for the latest version of the DB (as of April 08-2013). The VL has two sensor module options (Compact and LoI) and two cooling options (MicroChannel and TPG). The VP has one sensor module option (Compact) and two cooling options (MicroChannel and Pocoform).

## General Settings for Magnet up Magnet down and Magnet Off

The default is 'Magnet down'. To get this, just using any of the Global tags specified above is sufficient. To get the 'Magnet Up' use the following This can be used together with other 'detector options' by adding this option as a comma separated string, as in shown for some of the detector options below Either have the line specified below

```
CondDB().AllLocalTagsByDataType=["#Upgrade"] or have CondDB.LocalTags = {
"SIMCOND": [
"magnet-up"
]
}
```

To get the 'Magnet Off' use the following Either have the line specified below

```
CondDB().AllLocalTagsByDataType=["#Upgrade_MagnetOff"] or have CondDB.LocalTags = {
"SIMCOND": [
"magnet-off"
]
}
```

For Magnet down option an extra option is provided in case the 'default' got changed in the future

```
CondDB().AllLocalTagsByDataType=["#Upgrade_MagnetDown"] or have CondDB.LocalTags = {
"SIMCOND": [
"magnet-down"
]
}
```

## Settings for using Simplified Geometry

Use the DDDB global tag dddb\_20170215 (with latest FT-v61 as of this date) or dddb\_20170218 (without latest FT -v61 ) or later tags

If needed to activate this as an option while using older global tags

```
CondDB().AllLocalTagsByDataType=[ "TrackFitSimplifiedGeometryV2",
"TK_TrackFitSimplifiedGeometryV2Activate" ] or have CondDB.LocalTags = {
"DDDB" : [
"TK-SimplifiedTrackFitGeometryV2-20170214" ,
"TK-SimplifiedTrackFitGeometryV2Activate-20170214"
]
}
```

## Settings for VP reorganisation

Use the global tags as below, or later ones

LHCbApp().DDDBtag = "dddb-20170228" LHCbApp().CondDBtag = "sim-20170228-vc-md100" (for magnet down) LHCbApp().CondDBtag = "sim-20170228-vc-mu100" (for magnet up) If needed to add with other tags, add the local tag VP-DDDBParam-Rearrange-20170228 in DDDB and VP-SIMCONDCatalogue-Rearrange-20170228 as shown in other examples below.

## Settings for Having VP Plan A

Use the Global Tag dddb-20170725

It is also possible use local tags for this if needed.

## Settings for Having Elongated Pixel in VP

Use the SIMCOND global tag sim-20150716-vc-md100 for magnet down setup . (nominal config)

Use the SIMCOND global tag sim-20150716-vc-mu100 for magnet up setup

Use the global tag dddb\_20161117 or later tags

If it is needed to compare the effect of the elongated pixel with an older global tag like dddb\_20160304, then use this global tag and

Either have `CondDB().AllLocalTagsByDataType=[ "VP_UVP_PixelSize" ]` or have `CondDB.LocalTags = { "DDDB" : [ "VP-PixelSize-20160916" ] }`

## Settings for using the major updated version of FT 6.2 as of July 2017

Use Global tag dddb-20170724 It is also possible to use local tags if needed

## Settings for using the major updated version FT as of February11-2017

Use the DDDB and SIMCOND Tags as of Feb11-2017: dddb-20170211, sim-20170210-vc-md100, sim-20170210-vc-mu100

If it is needed to use just the FT updates with some older Global tags

Activate the local tag as follows

Either have `CondDB().AllLocalTagsByDataType=[ "FT_Geometry_61_Set" , "FT_Geometry_61", "FT_Geom_v61_Condition" ]`

or have `CondDB.LocalTags = {`

```
"DDDB" : [
"FT-v61-Geometry-20170210",      "FT-Geometry-v61-Activate-Local-20170210"
]
```

```
CondDB.LocalTags = {
"SIMCOND" : [
"FT-SIMCOND-Geom-v61-20170210"
]
```



## Settings for Adding the neutron shield for FT

Use the SIMCOND global tag sim-20150716-vc-md100 for magnet down setup . (nominal config)

Use the SIMCOND global tag sim-20150716-vc-mu100 for magnet up setup

Use the global tag dddb-20161116 or later tags

To activate the neutron shield use the global tag dddb-20171009

With earlier global tags, To activate the neutron shield have the following:

Either have `CondDB().AllLocalTagsByDataType=[ "FT_NeutronShieldActivate_TypeA"]` or have

```
CondDB.LocalTags = {
  "DDDB" : [
    "FT-NeutronShieldingActivateTypeA-Local-20160916"
  ]
}
```

For now, in Gauss also have a post config action which has the lines

```
def NeutronShieldActivate():
from Configurables import GiGaInputStream
Geo=GiGaInputStream("Geo")
StreamItems += ["/dd/Structure/LHCb/DownstreamRegion/NeutronShielding"]
```

## Settings for Adding Electron Clustermatch condition in CALO

```
Have CondDB.LocalTags = {
  "SIMCOND" : [
    "Calo-SIMCOND-ElectronClusMatch-20160919"
  ]
}
```

## Settings for Adding the new gains for ECAL and HCAL

Use the SIMCOND global tag sim-20160927-vc-md100 for magnet down setup . (nominal config)

Use the SIMCOND global tag sim-20160927-vc-mu100 for magnet up setup

If for special studies, it is needed to use this with other older simcond global tags,

```
Have CondDB.LocalTags = {
  ="SIMCOND" : [ "Calo-SIMCOND-ElectronClusMatch-20160919" ,
    "Calo-SIMCOND-Calibration-20160927"
  ]
}
```

Before Sept27-2016

Use the SIMCOND global tag sim-20150716-vc-md100 for magnet down setup . (nominal config)

Use the SIMCOND global tag sim-20150716-vc-mu100 for magnet up setup

If for special studies, it is needed to use this with other older simcond global tags,

```
Have CondDB.LocalTags = {
  "SIMCOND" : [
    "sim-ECAL-HCAL-20151607"
  ]
}
```

```
}
```

## Settings for Adding the Shielding plug for Hcal

One needs the Global tag dddb-20140306 or later ones.

```
Either have CondDB().AllLocalTagsByDataType=["HCAL_Shielding"] or have CondDB.LocalTags = {
"DDDB" : [
"Hcal-Local-ShieldingPlug-20140306"
]
}
```

## Settings for Radiation length study

This uses a tool for determining the radiation length and interaction action in scoring planes inserted between lhcb detectors. One can use any recent global tag , for example LHCbApp().DDDBtag = "ddb-20140606" LHCbApp().CondDBtag = "sim-20140204-vc-md100" (for magnet down) Then add the local tag for using the default configuraton, which has RICH on.

```
Either have CondDB().AllLocalTagsByDataType=[ "RadLength_AuxSet2" , "RadLength_AuxSet1" ,
"RadLength_Default"] or have CondDB.LocalTags = {
"DDDB" : [
"RadLength-AuxiliaryGeom-Local-20141014" , "RadLength-Auxiliary-Local-20141003" ,
"RadLength-Default-Local-20140908"
]
}
```

In order to use this configuration with RICH OFF, use the gauss options to switch off RICH and use the following.

```
importOptions("$GAUSSOPTS/RICHesOff.py")
```

An example options file can be found in Sim/SimChecks package

## Settings for Target study

The tool fires particles into blocks of material and returns information on probability of hadronic interaction and multiplicity and composition of daughters. For this one special geometry made of blocks of material is created inside LHCb environment, while the LHCb subdetectors are switched off. One needs following global tag or later ones to use this geometry. LHCbApp().DDDBtag = "ddb-20140120" LHCbApp().CondDBtag = "sim-20131108-vc-md100" The details of the option files to use with this can be found in Target study example options

## Detector Combination Settings

### Use new default settings as of March04-2016

Same as that of March3, 2016, but the FT v5x geometry is used. One can also activate the FT\_v5x geometry with earlier tags using the local tag

FT-Geom-v50-General-Local-20160303. The global tag without this update is dddb-20160303

## Use new default settings as of July29-2015

Same as that on July 02 in DDDDB + the PDG 2014 particle properties table The SIMCOND settings updated in July 16 2015.

**Use new default settings as of July02-2015 ( VP with chirality fixed and VP rotated by 45 degrees VP Z locations of A ,C sides switched+ RICH optics frozen as of Jan 2015 and with Mixed PMTin RICH2 and reduced PMT in RICH1 and RICH1 mag shielding updated and quartz window moved +FT+ + + support inside magnet installed in LS1 ) + Rest of current LHCb**

Use the latest global tags as of July02, 2015 (dddb-20150702 and sim-20140204-vc-md100)

**Use new default settings as of April124-2015 ( VP with chirality fixed and VP rotated by 45 degrees VP Z locations of A ,C sides switched+ RICH optics frozen as of Jan 2015 and with Mixed PMTin RICH2 and reduced PMT in RICH1 and RICH1 mag shielding updated and quartz window moved +FT+ +) + Rest of current LHCb**

Use the latest global tags as of April 24, 2015 (dddb-20150424 and sim-20140204-vc-md100)

**Use new default settings as of April14-2015 ( VP with chirality fixed and VP rotated by 45 degrees VP Z locations of A ,C sides switched + RICH2019 with Mixed in RICH2 and reduced in RICH1 +Rich1 magnetic shielding activated +FT+ +) + Rest of current LHCb**

Use the latest global tags as of April 14, 2015 (dddb-20150414 and sim-20140204-vc-md100)

**Use new default settings as of November21-2014 ( VP with chirality fixed and VP rotated by 45 degrees + RICH2019 with Mixed in RICH2 and reduced in RICH1 +Rich1 magnetic shielding activated +FT+ +) + Rest of current LHCb**

Use the latest global tags as of November 21, 2014 (dddb-20141121 and sim-20140204-vc-md100)

**Use new default settings as of Nov20-2014 ( VP with chirality fixed + RICH2019 with Mixed in RICH2 and reduced in RICH1+Rich1Magshield activated +FT+ +) + Rest of current LHCb**

**Use Pipe supports inside magnet as of July 02 , with globals tags before July02-2015**

```
Either have CondDB().AllLocalTagsByDataType=["Pipe_SupportMagnet " ] or have
CondDB.LocalTags = {
"DDDB" : [
="Pipe_SupportInMagnet_20150702 "=
]
```

Use new default settings as of July29-2015

}

Use the latest global tags as of Nov20, 2014 (dddb-20141120 and sim-20140204-vc-md100) If one also needs to use extra changes to optics, one can apply a local tag as shown below

```
Either have CondDB().AllLocalTagsByDataType=["RICH_Optics_v1" ] or have CondDB.LocalTags = {
"DDDB" : [
"RICH_Rich1Opticsv1_20141120"
]
}
```

### Use new default settings as of October3-2014 ( VP with chirality fixed and VP rotated by 45 degrees + RICH2019 with Mixed in RICH2 and reduced in RICH1 +FT+ +) + Rest of current LHCb

Use the latest global tags as of October3, 2014 (dddb-20141003 and sim-20140204-vc-md100)

### Use new default settings as of Sept22-2014 ( VP with chirality fixed + RICH2019 with Mixed in RICH2 and reduced in RICH1 +FT+ +) + Rest of current LHCb

Use the latest global tags as of Sept22, 2014 (dddb-20140922 and sim-20140204-vc-md100)

### Use Different versions of the FT geometry update in Oct2014

Use a recent version of global tag: for example (dddb-20141016 and sim-20140204-vc-md100) to use the v40 series of the Ft geometry. If older dddb tags used to run with earlier versions of gauss like v46r8, one needs to add the localtag FT-v40Geometry-20141015 (datatype FT\_v40Series) at the end of the tags listed below. To use earlier FT geometry (v20 ) any recent DDDB tag like dddb-20141016 or dddb-20141014 or dddb-20140606 are also OK.

Use the latest version of FTDet (as of Oct14, 2014) or later. This uses geometry v20 and stereo angle 5 as default.

For geometry v20 and stereoangle 2 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V20_STEREO_2" ] or have CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v20-Stereo-2degree-Local-20141015"
]
}
```

For geometry v20 and stereoangle 3 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V20_STEREO_3" ] or have CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v20-Stereo-3degree-Local-20141015"
]
}
```

For geometry v20 and stereoangle 4 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V20_STEREO_4" ] or have CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v20-Stereo-4degree-Local-20141015"
]
}
```

Use Pipe supports inside magnet as of July 02 , with globals tags beforeJuly02-2015

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```
}
```

**For geometry v40 and stereoangle 2 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_2" , "FT_GEOM_v40" ] or have
CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v40Series-Stereo-2degree-Local-20141015", "FT-Geom-v40-General-Local-20141015"
]
}
```

**For geometry v40 and stereoangle 3 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_3" , "FT_GEOM_v40" ] or have
CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v40Series-Stereo-3degree-Local-20141015", "FT-Geom-v40-General-Local-20141015"
]
}
```

**For geometry v40 and stereoangle 4 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_4" , "FT_GEOM_v40" ] or have
CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v40Series-Stereo-4degree-Local-20141015", "FT-Geom-v40-General-Local-20141015"
]
}
```

**For geometry v40 and stereoangle 5 , this angle is default , but the option provided anyway.**

**Either have** CondDB().AllLocalTagsByDataType=["FT\_V40Series\_STEREO\_5" , "FT\_GEOM\_v40" ] **or have** CondDB.LocalTags = {

```
"DDDB" : [
"FT-Geom-v40Series-Stereo-5degree-Local-20141015", "FT-Geom-v40-General-Local-20141015"
]
}
```

**For geometry v41 and stereoangle 2 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_2" , "FT_GEOM_v41" ] or have
CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v40Series-Stereo-2degree-Local-20141015", "FT-Geom-v41-General-Local-20141015"
]
}
```

**For geometry v41 and stereoangle 3 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_3" , "FT_GEOM_v41" ] or have
CondDB.LocalTags = {
"DDDB" : [
"FT-Geom-v40Series-Stereo-3degree-Local-20141015", "FT-Geom-v41-General-Local-20141015"
]
}
```

**For geometry v41 and stereoangle 4 , Either have**

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_4" , "FT_GEOM_v41" ] or have
CondDB.LocalTags = {
```

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```
"DDDB" : [  
"FT-Geom-v40Series-Stereo-4degree-Local-20141015", "FT-Geom-v41-General-Local-20141015"  
]  
}
```

For geometry v41 and stereoangle 5 , this angle is default , but the option provided anyway.

```
Either have CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_5" , "FT_GEOM_v41" ] or  
have CondDB.LocalTags = {  
"DDDB" : [  
"FT-Geom-v40Series-Stereo-5degree-Local-20141015", "FT-Geom-v41-General-Local-20141015"  
]  
}
```

For geometry v42 and stereoangle 2 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_2" , "FT_GEOM_v42" ] or have  
CondDB.LocalTags = {  
"DDDB" : [  
"FT-Geom-v40Series-Stereo-2degree-Local-20141015", "FT-Geom-v42-General-Local-20141015"  
]  
}
```

For geometry v42 and stereoangle 3 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_3" , "FT_GEOM_v42" ] or have  
CondDB.LocalTags = {  
"DDDB" : [  
"FT-Geom-v40Series-Stereo-3degree-Local-20141015", "FT-Geom-v42-General-Local-20141015"  
]  
}
```

For geometry v42 and stereoangle 4 , Either have

```
CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_4" , "FT_GEOM_v42" ] or have  
CondDB.LocalTags = {  
"DDDB" : [  
"FT-Geom-v40Series-Stereo-4degree-Local-20141015", "FT-Geom-v42-General-Local-20141015"  
]  
}
```

For geometry v42 and stereoangle 5 , this angle is default , but the option provided anyway.

```
Either have CondDB().AllLocalTagsByDataType=["FT_V40Series_STEREO_5" , "FT_GEOM_v42" ] or  
have CondDB.LocalTags = {  
"DDDB" : [  
"FT-Geom-v40Series-Stereo-5degree-Local-20141015", "FT-Geom-v42-General-Local-20141015"  
]  
}
```

### **Use Calo where SPD and PRS are activated + rest of standard upgrade setup as of Feb13-2014**

This needed when using a global tag dddb-20140213 (or later) which does not have the SPD and PRS and you would like to have them activated Either have `CondDB().AllLocalTagsByDataType=["Calo_WithSPDPRS"]` or have `CondDB.LocalTags = {`  
`"DDDB" : [`

Use Calo where SPD and PRS are activated + rest of standard upgrade setup as of Feb13-2014 12

```
"Calo-Local-WithSPDPRS-20140225"
]
}
```

### Use Calo where SPD and PRS are removed + rest of current LHCb

Either have `CondDB().AllLocalTagsByDataType=["Calo_NoSPDPRS"]` or have `CondDB.LocalTags = {`  
`"DDDB" : [`  
`"Calo-Local-NoSPDPRS-20130704"`  
`]`  
`}`

### Use Muon where M1 activated + rest of standard upgrade setup as of Feb13-2014

This needed when using a global tag `dddb-20140213` (or later) which does not have M1 and you would like to have it activated Either have `CondDB().AllLocalTagsByDataType=["Muon_WithM1"]` or have

```
CondDB.LocalTags = {
"DDDB" : [
"Muon-Local-WithM1-20140225"
]
}
```

### Use Upgraded VP with 45 degree rotation and with Chirality Fixed (RICH2019+FT+ +) + Rest of current LHCb

Use the latest global tags as of June06, 2014 (`dddb-20140606` and `sim-20140204-vc-md100`) one may either have `CondDB().AllLocalTagsByDataType=[ "VP_UVP_Rotation"]` or have `CondDB.LocalTags = {`

```
"DDDB" : [
"VP-Rotation-20140722"
]
}
```

### Use Upgraded VP with Chirality Fixed and with new default settings as of June06-2014 (RICH2019+FT+ +) + Rest of current LHCb

Use the latest global tags as of June06, 2014 (`dddb-20140606` and `sim-20140204-vc-md100`)

Alternatively, if one wants to use this VP-Chirality-Fix with some older data base tags for other parts of LHCb, one may use the local tag `VP-Chirality-20140606`. For this one may either have

```
CondDB().AllLocalTagsByDataType=[ "VP-UVP-Chirality"] or have CondDB.LocalTags = {
"DDDB" : [
"VP-Chirality-20140606"
]
}
```

### Use Upgraded VP+ Upgraded UT with new default settings as of Feb02-2014 +RICH2019+FT+ + + Rest of current LHCb

This uses the database as of Feb13-2014 and hence one just needs the global tags ( `dddb-20140213` and `sim-20140204-vc-md100`) as listed above. This includes all the modifications to UT done on Feb02-2014.

## Use Upgraded VP+ Upgraded UT with new default settings as of Feb02-2014 +RICH2019+FT+ + + Rest of current LHCb+ RICH

One may use the database ( dddb-20140213 and sim-20140204-vc-md100) and make the following additions in the options file. For RICH1 PMT Array reduced size Either have =CondDB().AllLocalTagsByDataType=[ "RICH\_R1PMT"] or have CondDB.LocalTags = {

```
"DDDB" : [
"RICH-Rich1PmtArray-Local-20140213"
]
}
```

For RICH2 PMT Array with Large PMTs in the outer region Either have

=CondDB().AllLocalTagsByDataType=[ "RICH\_R2PMT"] or have CondDB.LocalTags = {

```
"DDDB" : [
"RICH-Rich2PmtArray-Local-20140213",    "RICH-PmtSensDet-Local-20140825"
]
}
```

## Use Upgraded VP+ Upgraded UT with new default settings as of Feb02-2014 +RICH2019+FT+Rest of current LHCb

All the modifications to UT done from September 2013 until Feb2014 is consolidated in this new version so that this version can be used for UT from Feb-02-2014 onwards. To use this, one just needs the Global tags dddb-20140204 and sim-20140204-vc-md100 in the python options file.

It already contains the local tags UVP+RICH2019+UUT-Local-20131021, UT-Material-Local-20130930 on top of dddb-20140120 (and hence dddb-20131108) and also it contains the local tags sim-UT-20140204 on top of sim-20131108-vc-md100. ( Here for FT stereoangle5 and Monolayer are default).

## Use Upgraded VP+ Upgraded UT with +RICH2019+FT+Rest of current LHCb

The upgraded UT is from 08-11-2013 and upgraded VP is from 25-10-2013 . This is the version used until Feb02-2014. A new version as indicated above is created for UT after this date. This is assuming one is using the Global tags Nov08-2013 (DDDB : dddb-20131108) , Nov08-2013 (SIMCOND:

sim-201301108-vc-md100 ) or later (Here stereoangle5 and Monolayer for FT are the default. For other stereo angles see the options specified in other sections below). -either have the datatypes as specified below

CondDB().AllLocalTagsByDataType=["VP\_UVP+RICH\_2019+UT\_UUT"] or have the local tags as specified below With the standard FT CondDB.LocalTags = {

```
"DDDB" : [
"UVP+RICH2019+UUT-Local-20131021",
"UT-Material-Local-20130930"
]
"SIMCOND" : [
"Sim-UT-Local-20130930"
]
}
```

## Use Upgraded VP+ Upgraded UT with Readout +RICH2019+FT+Rest of current LHCb



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From Feb02-2014 onwards the following instructions are needed. This assumes the Global tags as of Feb02-2014 ( dddb-20140204 and sim-20140204-vc-md100). (Here stereoangle5 and Monolayer for FT are the default. For other stereo angles see the options specified in other sections below). -either have the datatypes as specified below `CondDB().AllLocalTagsByDataType=["UT_StressTest" ]` or have the local tags as specified below With the standard FT

```
CondDB.LocalTags = {
  "SIMCOND":[=
    "Sim-UT-Local-ReadoutStressTest-20131108",
  ]
}
```

Until FEB02-2014 the following instructions needed. The upgraded UT is from 08-11-2013 and upgraded VP is from 25-10-2013 This is assuming one is using the Global tags Nov08-2013 (DDDB : dddb-20131108) , Nov08-2013 (SIMCOND: sim-201301108-vc-md100 ) or later (Here stereoangle5 and Monolayer for FT are the default. For other stereo angles see the options specified in other sections below). -either have the datatypes as specified below `CondDB().AllLocalTagsByDataType=["UT_StressTest", "VP_UVP+RICH_2019+UT_UUT" ]` or have the local tags as specified below With the standard FT

```
CondDB.LocalTags = {
  "DDDB" : [
    "UVP+RICH2019+UUT-Local-20131021",
    "UT-Material-Local-20130930"
  ]
  "SIMCOND":[
    "Sim-UT-Local-ReadoutStressTest-20131108",
    "Sim-UT-Local-20130930"
  ]
}
```

### Use Upgraded VP+ Upgraded UT+RICH2019+FT+Rest of current LHCb

The upgraded UT is from 30-9-2013 and upgraded VP is from 25-10-2013 This is assuming one is using the Global tags Oct25-2013 (DDDB : dddb-20131025) , Aug30-2013 (SIMCOND: sim-20130830-vc-md100 ) or later (Here stereoangle5 and Monolayer for FT are the default. For other stereo angles see the options specified in other sections below). -either have the datatypes as specified below

```
CondDB().AllLocalTagsByDataType=["VP_UVP+RICH_2019+UT_UUT"] or have the local tags as specified below With the standard FT
CondDB.LocalTags = {
  "DDDB" : [
    "UVP+RICH2019+UUT-Local-20131021",
    "UT-Material-Local-20130930"
  ]
  "SIMCOND":[
    "Sim-UT-Local-20130930"
  ]
}
```

### Use Upgraded VP+ UT (until 30-9-2013) +RICH2019+FT+Rest of current LHCb

The upgraded VP is from 21-10-2013 This is assuming one is using the Global tags Oct25-2013 (DDDB : dddb-20131025) , Aug30-2013 (SIMCOND: sim-20130830-vc-md100 ) or later (Here stereoangle5 and Monolayer for FT are the default. For other stereo angles see the options specified in other sections below). -either have the datatypes as specified below

```
CondDB().AllLocalTagsByDataType=["VP_UVP+RICH_2019+UT"] or have the local tags as specified below
```

Use Upgraded VP+ Upgraded UT with Readout StressTest +RICH2019+FT+Rest of current LHCb15

```
With the standard FT CondDB.LocalTags = {
"DDDB" : [
"UVP+RICH2019+UT-Local-20131021"
]
}
```

## Use VP+UT+RICH2019+FT+Rest of current LHCb

This uses the latest UT updates from Sept30-2013 onwards This is assuming one is using the Global tag of Oct07-2013 (DDDB) , Aug30-2013 (SIMCOND) or later,. (here stereoangle5 for FT is default). But for other angles one needs to specify them explicitly

-either have the datatypes as specified below -With FT StereoAngle 2 and Monolayer

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT_UUT", "FT_StereoAngle2"] -With FT StereoAngle 3 and Monolayer
```

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT_UUT", "FT_StereoAngle3"] -With FT StereoAngle 4 and Monolayer
```

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT_UUT", "FT_StereoAngle4"] -With FT StereoAngle 5 and Monolayer
```

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT_UUT", "FT_StereoAngle5"] or have the local tags as specified below With the standard FT with StereoAngle2 and Monolayer
```

```
CondDB.LocalTags = {
"DDDB" : [
"VP+RICH2019+UT-Local-20130930"
"UT-Material-Local-20130930",
"FT-Stereo2-Local-20130806"
]
"SIMCOND":[
"Sim-UT-Local-20130930"
]
}
```

With the standard FT with StereoAngle3 and Monolayer CondDB.LocalTags = {

```
"DDDB" : [
"VP+RICH2019+UT-Local-20130930"
"UT-Material-Local-20130930",
"FT-Stereo4-Local-20130806"
]
"SIMCOND":[
"Sim-UT-Local-20130930"
]
}
```

With the standard FT with StereoAngle4 and Monolayer CondDB.LocalTags = {

```
"DDDB" : [
"VP+RICH2019+UT-Local-20130930",
"UT-Material-Local-20130930",
"FT-Stereo4-Local-20130806"
]
"SIMCOND":[
"Sim-UT-Local-20130930"
]
}
```

With the standard FT with StereoAngle5 and Monolayer CondDB.LocalTags = {

```
"DDDB" : [
"VP+RICH2019+UT-Local-20130930",
"UT-Material-Local-20130930",
"FT-Stereo5-Local-20130830"
]
```

```

]
"SIMCOND": [
"Sim-UT-Local-20130930"
]
}

```

## Use VP+UT+RICH2019+FT+Rest of current LHCb

This uses the UT version before the Sept30-2013. If one is using the Global tag of Aug31-2013 (DDDB), Aug30-2013 (SIMCOND) or later, then this is the default with stereoangle5. Hence nothing to specify. But for other angles one needs to specify as follows. The stereoangle5 also exists as an option, but is redundant with this global tag.

-either have the datatypes as specified below -With FT StereoAngle 2 and Monolayer

```

CondDB().AllLocalTagsByDataType=["FT_StereoAngle2"] -With FT StereoAngle 3 and Monolayer
CondDB().AllLocalTagsByDataType=["FT_StereoAngle3"] -With FT StereoAngle 4 and Monolayer
CondDB().AllLocalTagsByDataType=["FT_StereoAngle4"] -With FT StereoAngle 5 and Monolayer
CondDB().AllLocalTagsByDataType=["FT_StereoAngle5"] or have the local tags as specified below With
the standard FT with StereoAngle2 and Monolayer CondDB.LocalTags = {
"DDDB" : [
"FT-Stereo2-Local-20130806"
]
}

```

With the standard FT with StereoAngle3 and Monolayer CondDB.LocalTags = {

```

"DDDB" : [
"FT-Stereo4-Local-20130806"
]
}

```

With the standard FT with StereoAngle4 and Monolayer CondDB.LocalTags = {

```

"DDDB" : [
"FT-Stereo4-Local-20130806"
]
}

```

With the standard FT with StereoAngle5 and Monolayer CondDB.LocalTags = {

```

"DDDB" : [
"FT-Stereo5-Local-20130830"
]
}

```

When using older Global tags (before August 30-2013), one needs use the following lines. This uses the VP microchannel option for VP. Other VP options (like pocofoam) are being phased out. To access the database -either have the datatypes as specified below -With the standard FT with Monolayer

```

CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT", "FT_MonoLayer"] -With FT StereoAngle 2 and
Monolayer CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT", "FT_StereoAngle2"] -With FT
StereoAngle 3 and Monolayer
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT", "FT_StereoAngle3"] -With FT StereoAngle 4
and Monolayer CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT", "FT_StereoAngle4"]

```

or have the local tags as specified below

```

-With the standard FT with Monolayer CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",

```

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```
"RICH-R2019+VP+UT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

```
-With the standard FT with StereoAngle2 and Monolayer CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"RICH-R2019+VP+UT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
"FT-Stereo2-Local-20130806"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

```
-With the standard FT with StereoAngle3 and Monolayer CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"RICH-R2019+VP+UT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
"FT-Stereo3-Local-20130806"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

```
With the standard FT with StereoAngle4 and Monolayer CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"RICH-R2019+VP+UT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
"FT-Stereo4-Local-20130806"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = { "Detectors": ['VP', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',
'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = { "Detectors": ['VP',
'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorMoni = { "Detectors": ['VP', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',
'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DataType = "Upgrade"
```

## Use VP+UT+FT+Rest of current LHCb

A predefined option for this is prepared and used in central productions, **Gauss-Upgrade-** using the released version before March 20-2013. The following is for the latest version after March20-2013.

For the Microchannel option To access the database -either have the datatypes as specified below -With the standard FT with Monolayer

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+UT", "FT_MonoLayer"]
```

-With the standard FT with StereoAngle2 and Monolayer

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+UT", "FT_StereoAngle2"] -With the
standard FT with StereoAngle3 and Monolayer
```

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+UT", "FT_StereoAngle3"] -With the
standard FT with StereoAngle4 and Monolayer
```

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+UT", "FT_StereoAngle4"]
```

or have the local tags as specified below

-With the standard FT and Monolayer

```
CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"VP-UT-Local-NoPuVeto-20121024",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
]
}
```

With the standard FT with StereoAngle2 and Monolayer CondDB.LocalTags = {

```
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"VP-UT-Local-NoPuVeto-20121024",
"UT-Pipe-Upgrade-Local-20120928",
"FT-MonoLayer-Local-20130722"
"FT-Stereo2-Local-20130806"
]
}
```

With the standard FT with StereoAngle3 and Monolayer CondDB.LocalTags = {

```
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"VP-UT-Local-NoPuVeto-20121024",
"UT-Pipe-Upgrade-Local-20120928",
```

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```
"FT-MonoLayer-Local-20130722"  
"FT-Stereo3-Local-20130806"  
]  
}
```

With the standard FT with StereoAngle4 and Monolayer `CondDB.LocalTags = {`

```
"DDDB" : [  
"VP-CompactMicroChannelOptimize-Local-20130408",  
"VP-Compact-Local-20130319",  
"VP-UT-Local-NoPuVeto-20121024",  
"UT-Pipe-Upgrade-Local-20120928",  
"FT-MonoLayer-Local-20130722"  
"FT-Stereo4-Local-20130806"  
]  
}
```

For the Pocofoam option With the standard FT Monolayer To access the database either have

```
CondDB().AllLocalTagsByDataType=["VP_Compact_Pocofoam+UT", "FT_MonoLayer"]
```

or have

```
CondDB.LocalTags = {  
"DDDB" : [  
"VP-CompactPocofoamOptimize-Local-20130408",  
"VP-CompactPocoform-Local-20130319",  
"VP-UT-Local-NoPuVeto-20121024",  
"UT-Pipe-Upgrade-Local-20120928",  
"FT-MonoLayer-Local-20130722"  
]  
}
```

For both options, to activate the subdetectors in Gauss

```
Gauss().DetectorGeo = { "Detectors": ['VP', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',  
'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = { "Detectors": ['VP',  
'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }  
Gauss().DetectorMoni = { "Detectors": ['VP', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',  
'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DataType = "Upgrade"
```

## Use VL+UT+FT+Rest of current LHCb

-With the standard FT Monolayer

For VL-Compact-MicroChannel option

```
CondDB().AllLocalTagsByDataType=["VL_Compact_MicroChannel+UT" , "FT_MonoLayer"]
```

For VL-Compact-TPG option `CondDB().AllLocalTagsByDataType=["VL_Compact_TPG+UT",  
"FT_MonoLayer"]`

For the VL-LoI-MicroChannel option `CondDB().AllLocalTagsByDataType=["VL_LoI_MicroChannel+UT",  
"FT_MonoLayer"]`

For the VL-LoI-TPG option `CondDB().AllLocalTagsByDataType=["VL_LoI_TPG+UT", "FT_MonoLayer"]`

or have the local tags as indicated below.

### For VL-Compact-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527" , "VL-MicroChannelOptimize-Local-20130408",
    "VL-MicroChannel-Local-20130319" , "VL-CompactOptimize-Local-20130408" ,
    "VL-Compact-Local-20130319", "VL+UT-Local-20130214" , "UT-Pipe-Upgrade-Local-20120928" ,
    "FT-MonoLayer-Local-20130722" ] }

```

### For VL-Compact-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527", "VL-TPGOptimize-Local-20130408",
    "VL-TPG-Local-20130319" , "VL-CompactOptimize-Local-20130408" ,
    "VL-Compact-Local-20130319", "VL+UT-Local-20130214" , "UT-Pipe-Upgrade-Local-20120928" ,
    "FT-MonoLayer-Local-20130722" ] }

```

### For VL-LoI-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-MicroChannelOptimize-Local-20130408", "VL-MicroChannel-Local-20130319" ,
    "VL-LoI-Local-20130214", "VL+UT-Local-20130214" , "UT-Pipe-Upgrade-Local-20120928" ,
    "FT-MonoLayer-Local-20130722" ] }

```

### For VL-LoI-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-TPGOptimize-Local-20130408", "VL-TPG-Local-20130319" , "VL-LoI-Local-20130214",
    "VL+UT-Local-20130214" , "UT-Pipe-Upgrade-Local-20120928" ,
    "FT-MonoLayer-Local-20130722" ] }

```

### To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = { "Detectors": ['VL', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',
  'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = { "Detectors": ['VL',
  'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorMoni = { "Detectors": ['VL', 'UT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd',
  'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DataType = "Upgrade"

```

## Use VP+RICH2019+UT+SL+OT+Rest of current LHCb

Here the UT from 30-09-2013 onwards is used as an illustration This assumes using the global tag dddb-20131009 or the dddb global tags after that and also using sim-20130830-vc-md100 or the simcond global tags after that.

Either use the datatypes as shown below <br>

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+UT_UUT", "SL+OT"]

```

Or use the local tags as shown below <br>

## GeometryActivationExamples < LHCb < TWiki

```
CondDB.LocalTags = {
  "DDDB" : [
    "VP+RICH2019+UT-Local-20130930"
    "UT-Material-Local-20130930"
    "SL-OT-Local-20131009"
  ]
  "SIMCOND": [
    "Sim-UT-Local-20130930"
  ]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = { "Detectors": ['VP', 'UT', 'SL', 'OT', 'Rich1Pmt', 'Rich2Pmt',
'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = { "Detectors":
['VP', 'UT', 'SL', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal',
'Muon', 'Magnet' ] } Gauss().DetectorMoni = { "Detectors": ['VP', 'UT', 'SL', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DataType = "Upgrade"
```

## Use VP+UT+Rest of current LHCb

For the Microchannel option To access the database either have

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+UT"]
```

or have

```
CondDB.LocalTags = {
  "DDDB" : [
    "VP-CompactMicroChannelOptimize-Local-20130408",
    "VP-Compact-Local-20130319",
    "VP-UT-Local-NoPuVeto-20121024",
    "UT-Pipe-Upgrade-Local-20120928",
  ]
}
```

For the Pocoform option To access the database either have

```
=CondDB().AllLocalTagsByDataType=["VP_Compact_Pocofoam+UT"] =
```

or have

```
CondDB.LocalTags = {
  "DDDB" : [
    "VP-CompactPocofoamOptimize-Local-20130408",
    "VP-CompactPocoform-Local-20130319",
    "VP-UT-Local-NoPuVeto-20121024",
    "UT-Pipe-Upgrade-Local-20120928",
  ],
}
```

To activate the subdetectors in Gauss



## GeometryActivationExamples < LHCb < TWiki

```
Gauss().DetectorGeo = {"Detectors": ['VP', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorSim = {"Detectors": ['VP', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorMoni = {"Detectors": ['VP', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DataType = "Upgrade"
```

### Use VL+UT+Rest of current LHCb

To access the database for the VL\_Compact option either use the datatypes as indicated below

For VL-Compact-MicroChannel option

```
CondDB().AllLocalTagsByDataType=["VL_Compact_MicroChannel+UT"]
```

For VL-Compact-TPG option CondDB().AllLocalTagsByDataType=["VL\_Compact\_TPG+UT"]

For the VL-LoI-MicroChannel option CondDB().AllLocalTagsByDataType=["VL\_LoI\_MicroChannel+UT"]

For the VL-LoI-TPG option CondDB().AllLocalTagsByDataType=["VL\_LoI\_TPG+UT"]

or have the local tags as indicated below.

For VL-Compact-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527", "VL-MicroChannelOptimize-Local-20130408",
    "VL-MicroChannel-Local-20130319", "VL-CompactOptimize-Local-20130408",
    "VL-Compact-Local-20130319", "VL+UT-Local-20130214", "UT-Pipe-Upgrade-Local-20120928"
  ]
}
```

For VL-Compact-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527", "VL-TPGOptimize-Local-20130408", "VL-TPG-Local-20130319",
    "VL-CompactOptimize-Local-20130408", "VL-Compact-Local-20130319",
    "VL+UT-Local-20130214", "UT-Pipe-Upgrade-Local-20120928"
  ]
}
```

For VL-LoI-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-MicroChannelOptimize-Local-20130408", "VL-MicroChannel-Local-20130319",
    "VL-LoI-Local-20130214", "VL+UT-Local-20130214", "UT-Pipe-Upgrade-Local-20120928"
  ]
}
```

For VL-LoI-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-TPGOptimize-Local-20130408", "VL-TPG-Local-20130319", "VL-LoI-Local-20130214",
    "VL+UT-Local-20130214", "UT-Pipe-Upgrade-Local-20120928"
  ]
}
```

For all options, to activate the subdetectors in Gauss

## GeometryActivationExamples < LHCb < TWiki

```
Gauss().DetectorGeo = {"Detectors": ['VL', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorSim = {"Detectors": ['VL', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorMoni = {"Detectors": ['VL', 'UT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DataType = "Upgrade"
```

### Use VL+FT+Rest of current LHCb

To access the database for compact version either have

#### For VL-Compact-MicroChannel option

```
CondDB().AllLocalTagsByDataType=["VL_Compact_MicroChannel+TT", "FT_MonoLayer"]
```

For VL-Compact-TPG option CondDB().AllLocalTagsByDataType=["VL\_Compact\_TPG+TT", "FT\_MonoLayer"]

For the VL-LoI-MicroChannel option CondDB().AllLocalTagsByDataType=["VL\_LoI\_MicroChannel+TT", "FT\_MonoLayer"]

For the VL-LoI-TPG option CondDB().AllLocalTagsByDataType=["VL\_LoI\_TPG+TT", "FT\_MonoLayer"]

or have the local tags as indicated below.

#### For VL-Compact-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527", "VL-MicroChannelOptimize-Local-20130408", "VL-MicroChannel-Local-20130319",
    "VL-CompactOptimize-Local-20130408", "VL-Compact-Local-20130319",
    "VL+TT-Local-20130214", "FT-MonoLayer-Local-20130722", "TT-Pipe-Local-20130830" ] }

```

#### For VL-Compact-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-CompactOptimize-Local-20130527", "VL-TPGOptimize-Local-20130408",
    "VL-TPG-Local-20130319", "VL-CompactOptimize-Local-20130408",
    "VL-Compact-Local-20130319", "VL+TT-Local-20130214", "FT-MonoLayer-Local-20130722",
    "TT-Pipe-Local-20130830" ] }

```

#### For VL-LoI-MicroChannel option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-MicroChannelOptimize-Local-20130408", "VL-MicroChannel-Local-20130319",
    "VL-LoI-Local-20130214", "VL+TT-Local-20130214", "FT-MonoLayer-Local-20130722",
    "TT-Pipe-Local-20130830" ] }

```

#### For VL-LoI-TPG option

```
CondDB.LocalTags = {
  "DDDB": [
    "VL-TPGOptimize-Local-20130408", "VL-TPG-Local-20130319", "VL-LoI-Local-20130214",
    "VL+TT-Local-20130214", "FT-MonoLayer-Local-20130722", "TT-Pipe-Local-20130830" ] }

```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['VL', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt',
'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim =
{"Detectors": ['VL', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal',
'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorMoni = {"Detectors": ['VL', 'TT', 'FT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
```

### Use VP+RICH2019+FT+Rest of current LHCb

Only the VP Microchannel option available for this To access the database either have the datatypes as specified below With the standard FT Monolayer

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+TT", "FT_MonoLayer"]
```

With the standard FT ans StereoAngle2 and Monolayer

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+TT", "FT_StereoAngle2"]
```

With the standard FT ans StereoAngle3 and Monolayer

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+TT", "FT_StereoAngle3"]
```

With the standard FT ans StereoAngle4 and Monolayer

```
CondDB().AllLocalTagsByDataType=["VP+RICH_2019+TT", "FT_StereoAngle4"]
```

or have the local tags as specified below

With the standard FT Monolayer

```
CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"RICH-R2019+VP+TT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"FT-MonoLayer-Local-20130722"
"TT-Pipe-Local-20130830"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

With the standard FT Monolayer and StereoAngle2

```
CondDB.LocalTags = {
"DDDB" : [
"VP-CompactMicroChannelOptimize-Local-20130408",
"VP-Compact-Local-20130319",
"RICH-R2019+VP+TT-Local-20130724",
"RICH2-RICH2019-Local-20130808",
"FT-MonoLayer-Local-20130722"
"FT-Stereo2-Local-20130806"
"TT-Pipe-Local-20130830"
],
"SIMCOND": [
"sim-RICH2019-Local-20130724"
]
}
```

}

### With the standard FT Monolayer and StereoAngle3

```
CondDB.LocalTags = {
  "DDDB" : [
    "VP-CompactMicroChannelOptimize-Local-20130408",
    "VP-Compact-Local-20130319",
    "RICH-R2019+VP+TT-Local-20130724",
    "RICH2-RICH2019-Local-20130808",
    "FT-MonoLayer-Local-20130722"
    "FT-Stereo3-Local-20130806"
    "TT-Pipe-Local-20130830"
  ],
  "SIMCOND": [
    "sim-RICH2019-Local-20130724"
  ]
}
```

### With the standard FT Monolayer and StereoAngle4

```
CondDB.LocalTags = {
  "DDDB" : [
    "VP-CompactMicroChannelOptimize-Local-20130408",
    "VP-Compact-Local-20130319",
    "RICH-R2019+VP+TT-Local-20130724",
    "RICH2-RICH2019-Local-20130808",
    "FT-MonoLayer-Local-20130722"
    "FT-Stereo4-Local-20130806"
    "TT-Pipe-Local-20130830"
  ],
  "SIMCOND": [
    "sim-RICH2019-Local-20130724"
  ]
}
```

### To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['VP', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt',
'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorSim =
{"Detectors": ['VP', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal',
'Hcal', 'Muon', 'Magnet']} Gauss().DetectorMoni = {"Detectors": ['VP', 'TT', 'FT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']}
```

## Use VP+FT+Rest of current LHCb

For the Microchannel option

To access the database either have the datatypes as specified below

-With the FT Monolayer

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+TT", "FT_MonoLayer"] -With the FT
Monolayer and StereoAngle2
```

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+TT", "FT_StereoAngle2"] -With the
```

Use VP+FT+Rest of current LHCb

### FT Monolayer and StereoAngle3

CondDB().AllLocalTagsByDataType=["VP\_Compact\_MicroChannel+TT", "FT\_StereoAngle3"] -With the FT Monolayer and StereoAngle4

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+TT", "FT_StereoAngle4"]
```

or have the local tags as specified below

#### - With the FT Monolayer

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactMicroChannelOptimize-Local-20130408",  
    "VP-Compact-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "FT-MonoLayer-Local-20130722"  
    "TT-Pipe-Local-20130830"  
  ]  
}
```

#### - With the FT Monolayer and StereoAngle2

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactMicroChannelOptimize-Local-20130408",  
    "VP-Compact-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "FT-MonoLayer-Local-20130722"  
    "FT-Stereo2-Local-20130806"  
    "TT-Pipe-Local-20130830"  
  ]  
}
```

#### - With the FT Monolayer and StereoAngle3

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactMicroChannelOptimize-Local-20130408",  
    "VP-Compact-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "FT-MonoLayer-Local-20130722"  
    "FT-Stereo3-Local-20130806"  
    "TT-Pipe-Local-20130830"  
  ]  
}
```

#### - With the FT Monolayer and StereoAngle4

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactMicroChannelOptimize-Local-20130408",  
    "VP-Compact-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "FT-MonoLayer-Local-20130722"  
    "FT-Stereo4-Local-20130806"  
  ]  
}
```

## GeometryActivationExamples < LHCb < TWiki

```
"TT-Pipe-Local-20130830"  
]  
}
```

For the Pocoform option With FT Monolayer To access the database either have

```
CondDB().AllLocalTagsByDataType=["VP_Compact_Pocofoam+TT", "FT_MonoLayer"]
```

or have

```
CondDB.LocalTags = {  
"DDDB" : [  
"VP-CompactPocofoamOptimize-Local-20130408",  
"VP-CompactPocoform-Local-20130319",  
"VP-Local-NoPuVeto-20121024",  
" FT-MonoLayer-Local-20130722"  
"TT-Pipe-Local-20130830"  
]  
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['VP', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt',  
'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorSim =  
{"Detectors": ['VP', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal',  
, 'Hcal', 'Muon', 'Magnet']} Gauss().DetectorMoni = {"Detectors": ['VP', 'TT', 'FT',  
, 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet']}
```

## Use VL + Rest of current LHCb

To access the database for the VL\_Compact option either use the datatypes as indicated below

For VL-Compact-MicroChannel option

```
CondDB().AllLocalTagsByDataType=["VL_Compact_MicroChannel+TT"]
```

For VL-Compact-TPG option CondDB().AllLocalTagsByDataType=["VL\_Compact\_TPG+TT"]

For the VL-LoI-MicroChannel option CondDB().AllLocalTagsByDataType=["VL\_LoI\_MicroChannel+TT"]

For the VL-LoI-TPG option CondDB().AllLocalTagsByDataType=["VL\_LoI\_TPG+TT"]

or have the local tags as indicated below.

For VL-Compact-MicroChannel option

```
CondDB.LocalTags = {  
"DDDB": [  
"VL-CompactOptimize-Local-20130527", "VL-MicroChannelOptimize-Local-20130408",  
"VL-MicroChannel-Local-20130319", "VL-CompactOptimize-Local-20130408",  
"VL-Compact-Local-20130319", "VL+TT-Local-20130214", "TT-Pipe-Local-20130830" ] }
```

For VL-Compact-TPG option

```
CondDB.LocalTags = {  
"DDDB": [  

```

Use VL + Rest of current LHCb

## GeometryActivationExamples < LHCb < TWiki

```
= "VL-CompactOptimize-Local-20130527","VL-TPGOptimize-Local-20130408",  
"VL-TPG-Local-20130319" , "VL-CompactOptimize-Local-20130408", "VL-Compact-Local-20130319",  
"VL+TT-Local-20130214" , "TT-Pipe-Local-20130830" ] ]=
```

For VL-LoI-MicroChannel option

```
CondDB.LocalTags = {  
  "DDDB": [  
    "VL-MicroChannelOptimize-Local-20130408", "VL-MicroChannel-Local-20130319" ,  
    "VL-LoI-Local-20130214", "VL+TT-Local-20130214" , "TT-Pipe-Local-20130830" ] } }
```

For VL-LoI-TPG option

```
CondDB.LocalTags = {  
  "DDDB": [  
    "VL-TPGOptimize-Local-20130408", "VL-TPG-Local-20130319" , "VL-LoI-Local-20130214",  
    "VL+TT-Local-20130214", "TT-Pipe-Local-20130830" ] } }
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['VL', 'TT', 'IT', 'OT', 'Rich1Pmt',  
'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim =  
  {"Detectors": ['VL', 'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs',  
'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorMoni = {"Detectors": ['VL',  
'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon',  
'Magnet' ] }
```

## Use VP+ Rest of current LHCb

For the Microchannel option To access the database either have

```
CondDB().AllLocalTagsByDataType=["VP_Compact_MicroChannel+TT"]
```

or have

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactMicroChannelOptimize-Local-20130408",  
    "VP-Compact-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "TT-Pipe-Local-20130830"  
  ]  
}
```

For the Pocoform option To access the database either have

```
CondDB().AllLocalTagsByDataType=["VP_Compact_Pocofoam+TT"]
```

or have

```
CondDB.LocalTags = {  
  "DDDB" : [  
    "VP-CompactPocofoamOptimize-Local-20130319",  
    "VP-CompactPocoform-Local-20130319",  
    "VP-Local-NoPuVeto-20121024",  
    "TT-Pipe-Local-20130830"  
  ]  
}
```

Use VP+ Rest of current LHCb

```
]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['VP', 'TT', 'IT', 'OT', 'Rich1Pmt',
'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim =
{"Detectors": ['VP', 'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs',
'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorMoni = {"Detectors": ['VP',
'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon',
'Magnet' ] }
```

## Use RICH2019 + Rest of current LHCb

To access the database either have

```
CondDB().AllLocalTagsByDataType=[ "Velo+RICH_2019+TT"]
```

or have

```
CondDB. LocalTags ={
"DDDB":[ "RICH-R2019+Velo+TT-Local-20130724" , "RICH2-RICH2019-Local-20130808"],
"TT-Pipe-Local-20130830"
"SIMCOND":[
"sim-RICH2019-Local-20130724"
]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['PuVeto', 'Velo', 'TT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorSim = {"Detectors": ['PuVeto', 'Velo', 'TT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorMoni = {"Detectors": ['PuVeto', 'Velo', 'TT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DataType = "Upgrade"
```

## Use UT + Rest of current LHCb

To access the database either have

```
CondDB().AllLocalTagsByDataType=[ "Velo+UT"]
```

or have

```
CondDB. LocalTags ={
"DDDB":["UT-Upgrade-Local-20120912" ]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = {"Detectors": ['PuVeto', 'Velo', 'UT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorSim = {"Detectors": ['PuVeto', 'Velo', 'UT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
Gauss().DetectorMoni = {"Detectors": ['PuVeto', 'Velo', 'UT', 'IT', 'OT',
'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
```



```
Gauss().DataType = "Upgrade"
```

## Use FT + Rest of current LHCb

To access the database either have the datatypes as specified below

-with FT Monolayer

```
CondDB().AllLocalTagsByDataType=[ "TT_Pipe" , "FT_MonoLayer"]
```

-with FT Monolayer and StereoAngle2 `CondDB().AllLocalTagsByDataType=[ "TT_Pipe" , "FT_StereoAngle2"]`

with FT Monolayer and StereoAngle3 `CondDB().AllLocalTagsByDataType=[ "TT_Pipe" , "FT_StereoAngle3"]`

with FT Monolayer and StereoAngle4 `CondDB().AllLocalTagsByDataType=[ "TT_Pipe" , "FT_StereoAngle4"]`

or have local tags as specified below

-with FT Monolayer

```
CondDB.LocalTags = {
  "DDDB" : [
    "FT-MonoLayer-Local-20130722"
    "TT-Pipe-Local-20130830"
  ]
}
```

-with FT Monolayer and stereoangle2

```
CondDB.LocalTags = {
  "DDDB" : [
    "FT-MonoLayer-Local-20130722"
    "FT-Stereo2-Local-20130806"
    "TT-Pipe-Local-20130830"
  ]
}
```

-with FT Monolayer and stereoangle3

```
CondDB.LocalTags = {
  "DDDB" : [
    "FT-MonoLayer-Local-20130722"
    "FT-Stereo3-Local-20130806"
    "TT-Pipe-Local-20130830"
  ]
}
```

-with FT Monolayer and stereoangle4

```
CondDB.LocalTags = {
  "DDDB" : [
    "FT-MonoLayer-Local-20130722"
```

Use UT + Rest of current LHCb

```
"FT-Stereo4-Local-20130806"
"TT-Pipe-Local-20130830"
]
}
```

## Use OLD FT (version before July 2013) + Rest of current LHCb

To access the database either have

```
CondDB().AllLocalTagsByDataType=[ "FT"]
```

or have

```
CondDB.LocalTags = {
"DDDB" : [
"FT-Upgrade-Local-20120910"
]
}
```

To activate the subdetectors in Gauss

```
Gauss().DetectorGeo = { "Detectors": ['PuVeto', 'Velo', 'TT', 'FT', 'Rich1Pmt',
'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = {
"Detectors": ['PuVeto', 'Velo', 'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal',
'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorMoni = { "Detectors": ['PuVeto', 'Velo',
'TT', 'FT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] }
```

## Use current LHCb

This is the current default option, so the following lines for this option are for information only. No special CondDB tags needed for default configuration.

```
from Gauss.Configuration import *
Gauss().DetectorGeo = { "Detectors": ['PuVeto', 'Velo', 'TT', 'IT', 'OT', 'Rich1Pmt',
'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorSim = {
"Detectors": ['PuVeto', 'Velo', 'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs',
'Ecal', 'Hcal', 'Muon', 'Magnet' ] } Gauss().DetectorMoni = { "Detectors": ['PuVeto',
'Velo', 'TT', 'IT', 'OT', 'Rich1Pmt', 'Rich2Pmt', 'Spd', 'Prs', 'Ecal', 'Hcal', 'Muon',
'Magnet' ] }
```

## Job Options

The rest of the job options are same as that for a typical Gauss job. For example in a file named

```
myGaussJobOptions.py from Gauss.Configuration import * GaussGen = GenInit("GaussGen")
GaussGen.FirstEventNumber =1 GaussGen.RunNumber = 1000 numberOfEvents =2 !LHCbApp().EvtMax
= numberOfEvents !Gauss.Output='SIM'
!HistogramPersistencySvc().OutputFile='MyHistoOutputFile.root' importOptions
("$DECFILEROOT/options/13104011.py") myOutputSimFile='MySimFile.sim' myGaussTape =
OutputStream("GaussTape") myGaussTape.Output="DATAFILE='PFN%s.sim' TYP='POOL_ROOTTREE'
OPT='RECREATE' "%myOutputSimFile
```

To run this: gaudirun.py myBeamConfigOption.py myGaussDetectorOptions.py myGaussJobOptions.py

-- SajjanEaso - 29-Sep-2012

This topic: LHCb > GeometryActivationExamples

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