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# UpgradeMonteCarloSamples

This page is to collect information regarding Upgrade MC for trigger development

## Available samples

The initial batch of samples generated in 2017 and 2018 is given in [LHCBGAUSS-1242](#). These are available under the bookkeeping path:

```
sim+std://MC/Upgrade/Beam7000GeV-Upgrade-MagDown-Nu7.6-25ns-Pythia8/Sim09c-Up02/Reco-Up01/<event
```

where `<event type>` should be replaced by the event type of interest.

These samples were contain the reconstruction as produced by Brunel. They have no trigger information as Moore was not run on them.

Samples filtered by a prototype HLT1 (ZombieMoore) are available under a similar path:

```
sim+std://MC/Upgrade/Beam7000GeV-Upgrade-MagDown-Nu7.6-25ns-Pythia8/Sim09c-Up02/Reco-Up01/Trig0x5
```

The HLT1 configuration for these samples is described in a talk given at a trigger meeting .

## Requesting new samples

Instructions for requesting new Upgrade MC are given on [LHCBGAUSS-1837](#).

## 2016 samples

The information below was written in 2016, and is likely outdated for your study.

### Conditions

The monte-carlo has been produced using conddb and dddb tags:

- DDDb: dddb-20150702
- Condition DB: sim-20150716-vc-mu100
- CondDB ().Upgrade = True

So the following job options are needed:

```
DaVinci().Simulation = True
DaVinci().DataType = "Upgrade"
DaVinci().InputType = 'LDST'
from Configurables import CondDB
CondDB().Upgrade = True
DaVinci().CondDBtag = "sim-20150716-vc-mu100"
DaVinci().DDDBtag = "ddb-20150702"
```

As the trigger has not yet been run on these samples, the following settings are helpful:

```
from Configurables import L0Conf
L0Conf().EnsureKnownTCK=False
```

## Scripts

Some minimal scripts to run over these MC samples to produce ntuples can be found here:

[https://gitlab.cern.ch/mwhitehe/upgrade\\_trigger\\_scripts](https://gitlab.cern.ch/mwhitehe/upgrade_trigger_scripts)

## Datasets

- The samples can be found at the following path:

sim://MC/Upgrade/Beam7000GeV-Upgrade-MagUp-Nu7.6-25ns-Pythia8/Sim08h-NoRichSpill/Reco15U3/Re

(see the book-keeping: [https://lhcb-web-dirac.cern.ch/DIRAC/LHCb-Production/lhcb\\_user/Data/BK/display](https://lhcb-web-dirac.cern.ch/DIRAC/LHCb-Production/lhcb_user/Data/BK/display))

- MC reconstructable filtered signal samples:

Event type	Channel	Approx Filter efficiency	Nevts post-filter	WG	StrippingLines
13246001	Bs2JPsiKKPiPi	10%	100000	B2CC	StrippingFullDSTDiMuonJpsi2MuMuDetach
13144001	Bs2JPsiPhi	32%	100000	B2CC	StrippingBetaSBs2JpsiPhiDetachedLine
13144020	Bs2psi2sPhi	32%	100000	B2CC	StrippingFullDSTDiMuonPsi2MuMuDetach
12165106	B2D0K_D02KsPiPi	8%	100000	B2OC	
12265042	B2D0KpiPi_D02KPi	16%	100000	B2OC	
11296013	Bd2DD	14%	100000	B2OC	
13264021	Bs2DsPi	23%	100000	B2OC	
15164001	Lb2LcPi	21%	100000	B2OC	
12103035	B2KKPi	32%	100000	BnoC	StrippingB2hhh_KKK_inclLine
12103121	B2KsK	15%	100000	BnoC	StrippingBu2KSPiDDLLine (s21), StrippingBu2KSPiLLLLine (s21)
11102003	Bd2KPi	42%	100000	BnoC	StrippingB2HHBDTLine, StrippingHb2Charged2BodyB2Charged2Bod
11104121	Bd2KsPiPi	9%	100000	BnoC	StrippingB2KShh_DD(LL)(LD)_2015_OS_ StrippingB2KShh_DD(LL)(LD)_2015_SS_I
13102412	Bs2KKPi0	17%	100000	BnoC	StrippingB2HHPi0_M, StrippingB2HHPi0_
13104012	Bs2PhiPhi	23%	100000	BnoC	StrippingBetaSBs2PhiPhiLine
27163002	D*2D0Pi,D02KK	17%	100000	Charm	
21163000	D2KKPi	9%	100000	Charm	
21263002	D2KKPi.py	24.90%	100000	Charm	
23103110	Ds2KsK.py	9%	100000	Charm	
23163011	Ds2PiPiPi	9%	100000	Charm	
27265001	Dst2D0Pi _D02KKPiPi.py	6%	100000	Charm	
27163400	Dst2D0Pi _D02KPiPi0.py	17.60%	100000	Charm	
27265101	Dst2D0Pi _D02KsKK.py	3%	100000	Charm	
27215001	Dst2D0Pi _D02PiKmumu.py	10.60%	100000	Charm	
25103110	Lc2LPi.py	2.60%	100000	Charm	
26264000	Sc02LcPi_Lc2pKPi.py	13.10%	100000	Charm	
26264020	Scpp2LcPi _Lc2pKPi.py	11.60%	100000	Charm	
26264030		13.70%	100000	Charm	

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	Scst02LcPi Lc2pKPi.py				
26264040	Scstpp2LcPi Lc2pKPi.py	14.90%	100000	Charm	
11124001	Bd2K*ee	12%	100000	RD	StrippingBu2LLKeeLine, StrippingBd2eeKst _Line
11114001	Bd2K*MuMu	27%	100000	RD	StrippingB2XMuMu _Line, StrippingBu2LL _Line
11102262	Bd2KpiGamma	17%	100000	RD	StrippingBeauty2XGamma2pi _Line
11114101	Bd2Ksmumu	15%	100000	RD	StrippingB2XMuMu _Line
11102202	Bd2KstGamma	19%	100000	RD	StrippingBeauty2XGamma2pi _Line, StrippingBeauty2XGammaExclusiveBd2Kst
13112001	Bs2MuMu	68%	100000	RD	Bs2MuMuLinesWideMassLine
13102201	Bs2PhiGamma	17%	100000	RD	StrippingBeauty2XGamma2pi _Line, StrippingBeauty2XGammaExclusiveBs2PhiC
13104212	Bs2PhiPhiGamma	17%	100000	RD	StrippingBeauty2XGamma4pi _Line
12143001	Bu2JpsiK	51%	100000	RD	Bs2MuMuLinesBu2JpsiKLine, StrippingB2X _Line, StrippingBu2LLK _Line
12203224	Bu2K1Gamma	13%	100000	RD	StrippingBeauty2XGamma3pi _Line
12203303	Bu2KstGamma	9%	100000	RD	StrippingBeauty2XGammapi _Ks0_Line exis
27173002	Dst2D0Pi _D02MuMu	25%	100000	RD	StrippingDstarD02xxDst2PiD02mumuBox
37103000	K2pipipi	0.04%	100000	RD	StrippingRareStrangeKPiPiPiMassMeasLine
34102104	KS2PiPi	3%	100000	RD	StrippingKs2PiPiForRnSLine
34112106	KS2mumu	3%	100000	RD	RnS from ~diegoms/public/for_William
34112401	KS2mumupi0	3%	100000	RD	RnS from ~diegoms/public/for_William
15102308	Lb2L0Gamma	1%	100000	RD	StrippingLb2L0Gamma _Line
15102228	Lb2Lst1670Gamma	17%	100000	RD	StrippingBeauty2XGamma2pi _Line
32313001	Sigma2pmumu	3%	100000	RD	StrippingRareStrangeSigmaPMuMuLine
23513001	tau23mu	41%	100000	RD	StrippingTau23MuTau23MuLine
12873432	B2D0MuNuD02KKPi0	30%	100000	Semileptonic	Strippingb2D0MuXHHPi0CharmFromBSem
12873002	B2D0MuNuD02KPi	28%	100000	Semileptonic	StrippingB2DMuNuX _D0
12875500	B2D0MuNuD02KsPiPi	6%	100000	Semileptonic	Strippingb2D0MuXKsPiPiLL (DD)CharmFromBSemiLine
11874042	Bd2DMuNu	18%	100000	Semileptonic	StrippingB2DMuNuX _Dp
11874004	Bd2DstMuNu	15%	100000	Semileptonic	StrippingB2DMuNuX _D0
11536011	Bd2Dsttaunu	5%	100000	Semileptonic	StrippingB0d2DstarTauNuForB2XTauNuAll
13774002	Bs2Dsmunu	20%	100000	Semileptonic	StrippingB2DMuNuX _Ds
13512010	Bs2KMuNu	55%	100000	Semileptonic	StrippingB2XuMuNuBs2KLine
15512011	Lb2pmunu	54%	100000	Semileptonic	StrippingLb2pMuNuVubLine

- Unfiltered cocktail samples for BG/rate estimations

Event type	Channel	Nevts (unfiltered)
10000000	Inclusive bb	2000000
20000000	Inclusive cc	2000000
30000000	Minbias	6000000

## Requests

New samples requested as of April 2016 are listed below

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Event type	Channel	Nevts post-filter	Working group
27265100	Dst2D0pi_D02KSpipi	100000	Charm
21113000	D2pimumu	100000	Charm
11574001	B2Dsttaunu_tau2mununu	100000	Semileptonic

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