

LO MLM DY inclusive (3.5.2 vs 2.9.18) Update with master branch

Jinjing Gu

June 28

Codes and plots on : https://gitlab.cern.ch/gjinjing/validation_gjj/-/tree/master/LO_DY_inclusive/master_branch

Task: LO MLM DY inclusive (3.5.2 vs 2.9.18)

Madgraph Used:

<https://github.com/cms-sw/genproductions.git>

(Change version in Line 139 of gridpack_generation.sh)

Samples Used:

https://github.com/cms-sw/genproductions/tree/9adb22e84bea40915d27a7ed94a5a6e740423efc/bin/MadGraph5_aMCatNLO/cards/production/13TeV/DYJets_HT_LO_MLM/DYJets_HT_mll50/DYJets_HT-incl

Fragment Used:

```
curl -s -k https://cms-pdmv-prod.web.cern.ch/mcm/public/restapi/requests/get_fragment/PPD-RunIISummer17wmLHEGS-00003 --retry 3 --create-dirs -o Configuration/GenProduction/python/PPD-RunIISummer17wmLHEGS-00003-fragment.py
```

Environment (on THU farm):

System release: Scientific Linux release 7.9 (Nitrogen)

scram_arch: slc7_amd64_gcc10 (CMSSW_12_4_8)

Task: LO MLM DY inclusive (3.5.3 vs 2.9.19) - Test using local machine

“=” Check : MG5 can correct this automatically

```
Process: g u > et e- u WEIGHTED<=5 / h @1
Process: g s > et e- s WEIGHTED<=5 / h @1
Process: g u~ > et e- u~ WEIGHTED<=5 / h @1
Process: g s~ > et e- s~ WEIGHTED<=5 / h @1
Process: g u > ta+ ta- u WEIGHTED<=5 / h @1
Process: g s > ta+ ta- s WEIGHTED<=5 / h @1
Process: g u~ > ta+ ta- u~ WEIGHTED<=5 / h @1
Process: g s~ > ta+ ta- s~ WEIGHTED<=5 / h @1
Process: g b > et e- b WEIGHTED<=5 / h @1
Process: g b~ > et e- b~ WEIGHTED<=5 / h @1
Process: g b > ta+ ta- b WEIGHTED<=5 / h @1
Process: g b~ > ta+ ta- b~ WEIGHTED<=5 / h @1
Process: u u~ > et e- g WEIGHTED<=5 / h @1
Process: s s~ > et e- g WEIGHTED<=5 / h @1
Process: u u~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: s s~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: b b~ > et e- g WEIGHTED<=5 / h @1
Process: b b~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: u u~ > et e- WEIGHTED<=4 / h
Process: s s~ > et e- WEIGHTED<=4 / h
Process: u u~ > ta+ ta- WEIGHTED<=4 / h
Process: s s~ > ta+ ta- WEIGHTED<=4 / h
Process: b b~ > et e- WEIGHTED<=4 / h
Process: b b~ > ta+ ta- WEIGHTED<=4 / h
```

```
Process: g u > et e- u WEIGHTED<=5 / h @1
Process: g s > et e- s WEIGHTED<=5 / h @1
Process: g u~ > et e- u~ WEIGHTED<=5 / h @1
Process: g s~ > et e- s~ WEIGHTED<=5 / h @1
Process: g u > ta+ ta- u WEIGHTED<=5 / h @1
Process: g s > ta+ ta- s WEIGHTED<=5 / h @1
Process: g u~ > ta+ ta- u~ WEIGHTED<=5 / h @1
Process: g s~ > ta+ ta- s~ WEIGHTED<=5 / h @1
Process: g b > et e- b WEIGHTED<=5 / h @1
Process: g b~ > et e- b~ WEIGHTED<=5 / h @1
Process: g b > ta+ ta- b WEIGHTED<=5 / h @1
Process: g b~ > ta+ ta- b~ WEIGHTED<=5 / h @1
Process: u u~ > et e- g WEIGHTED<=5 / h @1
Process: s s~ > et e- g WEIGHTED<=5 / h @1
Process: u u~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: s s~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: b b~ > et e- g WEIGHTED<=5 / h @1
Process: b b~ > ta+ ta- g WEIGHTED<=5 / h @1
Process: u u~ > et e- WEIGHTED<=4 / h
Process: s s~ > et e- WEIGHTED<=4 / h
Process: u u~ > ta+ ta- WEIGHTED<=4 / h
Process: s s~ > ta+ ta- WEIGHTED<=4 / h
Process: b b~ > et e- WEIGHTED<=4 / h
Process: b b~ > ta+ ta- WEIGHTED<=4 / h
```

Task: LO MLM DY inclusive (3.5.2 vs 2.9.18)

No effect
without “=”

```
import model sm-ckm_no_b_mass
define p = g u c d s u~ c~ d~ s~
define j = g u c d s u~ c~ d~ s~
define l+ = e+ mu+
define l- = e- mu-
define vl = ve vm vt
define vl~ = ve~ vm~ vt~
# Define multiparticle labels
define p u c s d b u~ c~ s~ d~ b~ g
define l+ = e+ mu+ ta+
define l- = e- mu- ta-
define j = p
# Specify process(es) to run
generate p p > l+ l- / h @0
add process p p > l+ l- j / h @1
add process p p > l+ l- j j / h @2
add process p p > l+ l- j j j / h @3
add process p p > l+ l- j j j j / h @4
# Output processes to MadEvent directory
output DYJets_HT-incl -nojpeg
```

LO MLM DY inclusive (3.5 vs 2.9.18) [on-going]

Open Task created 2 months ago by Meng Lu Updated 2 weeks ago

Assignees

Labels

Weight None

Milestone MG35X

Iteration

Dates

Parent MG35X Validation checklist

Description

Reference sample from Run-2: DYJetsToLL_M-50_TuneCUETP8M1_13TeV-madgraphMLM-pythia8 <https://cms-pdmv-prod.web.cern.ch/mcm/requests?repid=PPD-RunII Summer17wmLHEGS-00003&shown=2147483667>

Manpower: Jinjing Gu

Task: LO MLM DY inclusive (3.5.3 vs 2.9.19) - Test using local machine

Version 2.2.3 Check : MG5 version too old

```
MadGraph5Error: A compilation Error occurs when trying to compile /Users/gjinjing/mad5/MG5_aMC_v2_2_3/bin/DYJets_HT-incl/Source.
```

```
The compilation fails with the following output message:
```

```
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o dsample.o dsample.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o alfas_functions.o alfas_function
s.f
```

```
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o transpole.o transpole.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o invariants.o invariants.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o hfill.o hfill.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o pawgraphs.o pawgraphs.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o ran1.o ran1.f
gfortran -O -w -fbounds-check -fPIC -ffixed-line-length-132 -c -o rw_events.o rw_events.f
dsample.f:137:132:
```

```
137 |           call sample_put_point(wgt,x(1),iter,ipole,itmin) !Store result
    |
```

```
1
```

```
Error: More actual than formal arguments in procedure call at (1)
dsample.f:305:132:
```

```
305 |           call sample_put_point(wgt,x(1),iter,ipole,itmin) !Store result
    |
```

```
1
```

Task: LO MLM DY inclusive (3.5.2 vs 2.9.18)

- Gridpacks :
 - Jet: 0 + 1 + 2 + 3 + 4
 - Energy : 13 TeV
 - Long time to produce 0+1+2+3+4

Task: LO MLM DY inclusive (3.5.3 vs 2.9.19)

4-jet error

```
Program received signal SIGSEGV: Segmentation fault - invalid memory reference.

Backtrace for this error:
#0  0x7f15f70553ff in ???
#1  0x461b08 in ???
rm: cannot remove 'results.dat': No such file or directory
ERROR DETECTED
^[[1;34mWARNING: program /home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCat
NLO/DYJets_HT-incl/DYJets_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh 0 523 524 launch ends with non zero status: 139. Stop all
computation ^[[0m
INFO:  Idle: 1258,  Running: 47,  Completed: 333 [ 23h 46m ]

Program received signal SIGSEGV: Segmentation fault - invalid memory reference.

Backtrace for this error:
#0  0x7fe014f973ff in ???
#1  0x461b08 in ???
rm: cannot remove 'results.dat': No such file or directory
ERROR DETECTED
/home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCatNLO/DYJets_HT-incl/DYJets
_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh: line 33: 3157809 Terminated          ../madevent 2>&1 >> $k < input_app.txt
3157810          | tee -a $k
INFO:  Idle: 1258,  Running: 29,  Completed: 351 [ 23h 46m ]
/home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCatNLO/DYJets_HT-incl/DYJets
_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh: line 33: 3155141 Terminated          ../madevent 2>&1 >> $k < input_app.txt
3155142          | tee -a $k
/home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCatNLO/DYJets_HT-incl/DYJets
_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh: line 33: 3158663 Terminated          ../madevent 2>&1 >> $k < input_app.txt
3158664          | tee -a $k
INFO:  Idle: 1258,  Running: 9,  Completed: 371 [ 23h 46m ]
/home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCatNLO/DYJets_HT-incl/DYJets
_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh: line 33: 3147192 Terminated          ../madevent 2>&1 >> $k < input_app.txt
3147193          | tee -a $k
/home/storage2/users/gjinjing/gridpack/formaltask/LO_MLM_DY_inclusive_ultra/mg2/genproductions/bin/MadGraph5_aMCatNLO/DYJets_HT-incl/DYJets
_HT-incl_gridpack/work/processtmp/SubProcesses/survey.sh: line 33: 3155366 Terminated          ../madevent 2>&1 >> $k < input_app.txt
3155367          | tee -a $k

14912,6 Bot
```