

## Theory -> Event generation -> Simulation -> Analysis

- Tools for High Energy Physics and Cosmology, 2-6 Nov 2020 [↗](#)
- Informative intro talk [↗](#)

### Twiki

- PMG MC Sample Request Procedure Latest procedure.
- Talk to explain MC request procedure [↗](#) p18-27
- Exotics MC Requests HowTo
- HDBS MC Requests HowTo
  
- Overview of MC generator software in ATLAS (release info is also on this page)
  
- MC15 evgen production
- How To Test Production Job Options
- MC Generators for ATLAS
- MadGraph for Atlas
- MadGraph5\_aMC@NLO for ATLAS
- MadGraph Matching
- PMG Event Weights

To check the event weights: 'checkMetaSG.py EVENT\_file'

- H2DMPpseudoScalar

### JobOptions

- MC15JobOptions on git [↗](#)
- JobOptions on master (rel22) [↗](#)

### Release 22 and Python 3

As you might know, Release 22 is coming, and with it Python3. This will bring some advantages for us, as newer MadGraph versions (and functionality) only support Python3. The external MadGraph models, however, are generally not Python3 compatible.

We've taken care of updating all the models to be Python3 compatible with this merge request: [https://gitlab.cern.ch/atlas-generators-team/MadGraphModels/-/merge\\_requests/123](https://gitlab.cern.ch/atlas-generators-team/MadGraphModels/-/merge_requests/123) [↗](#)

We've done some simple checks to be sure that models can be loaded in both Python2 (e.g. release 21.6.X) and Python3 (e.g. release 22.0.X), but have not checked the physics output. We believe this is a technical update that should not have an impact on physics. Note that the normal SUSY model MSSM\_SLHA2 is bundled with MG itself, so is unaffected (this only affects e.g. RPV models).

If you'd like to test your model, you can check out the branch (the button "Check out branch" in git will give you instructions), point your PYTHONPATH at it, and run your favorite job. When you import your model MadGraph should show you the full path from which it loads the model, in case you aren't sure if the new version is being picked up.

The plan is to push this merge request at noon CERN time on Tuesday, June 15th. It will take a few hours to propagate to cvmfs, but after that we will have the new versions in production everywhere. If you identify any problems during that period, please let me/us know as quickly as possible. If needed, we will be able to

quickly revert the change.

Keeping the repository together, rather than branching, saves us quite a lot of maintenance effort, so we thank you for your understanding.

## Talks

- JDM meeting on 12 Aug 2016 [↗](#) Mono-jet mass grid
- PDF forum meeting on 26 Aug 2016 [↗](#) PDF recommendation
- GDT meeting on 11 Dec 2018 [↗](#) PDF recommendation
- PMG Plenary meeting on 13 Sep 2016 [↗](#) MC software report and generators status
- ATLAS weekly on 4 May 2021 [↗](#) AtlFast-3 The new ATLAS Fast Simulation
- arXiv:2109.02551 (hep-ex) [↗](#) AtlFast3: the next generation of fast simulation in ATLAS
- ATLAS weekly on 25 May 2021 [↗](#) Simulation and Digitization for Run 3

## Paper

- arXiv:1705.08093 (hep-ph) [↗](#) What is a parton shower?
- arXiv:1510.03865 (hep-ph) [↗](#) PDF4LHC recommendations for LHC Run II
- arXiv:2002.12716 (hep-ph) [↗](#) On the reduction of negative weights in MC@NLO-type matching procedures
- arXiv:2109.07851 (hep-ph) [↗](#) Unbiased Elimination of Negative Weights in Monte Carlo Samples
- Generator Infrastructure and Tools meeting on 18 Oct 2021 [↗](#) Unbiased Elimination of Negative Weights in Monte Carlo Samples (Jeppe Andersen, Andreas Maier)
- ATL-COM-PHYS-2018-158 [↗](#) Treatment of theory predictions in ATLAS
- arXiv:2203.11601 (hep-ph) [↗](#) A comprehensive guide to the physics and usage of PYTHIA 8.3

## MadGraph reweighting

- MadGraph reweighting module [↗](#)
- arXiv:1607.00763 (hep-ph) [↗](#) On the maximal use of Monte Carlo samples: re-weighting events at NLO accuracy
- 2HDM+a model twiki
- Talk by Hannes Mildner on 23 Aug 2017 [↗](#) Update on Madgraph Reweighting
- Talk by Hannes Mildner on 24 Jan 2019 [↗](#) Madgraph: reweighting and related features
- MadGraphControl\_Pythia8EvtGen\_A14NNPDF30LO\_Pseudoscalar\_2HDM\_monoHbb\_v2.py [↗](#)
- Z(l)+MET meeting on 16 Sep 2019 [↗](#) Reweighting Strategies for 2HDM+a Sample Request (Chris)
- CDM meeting on 19 Sep 2019 [↗](#) MadGraph Reweighting Tool Validation for Mono-H and Mono-Z (Chris)

## MC request

- CDM meeting on 28 Nov 2019 [↗](#) 2HDM+a Signal Request for Mono-Z(l) (Chris)

## Delphes

- Delphes Quick Tour [↗](#)

## SimpleAnalysis

Analysis framework based on truth DAOD.

- Uncovered signatures + Run 3 opportunities workshop on 13 May 2020 [SimpleAnalysis tutorial introduction](#)
- AimpleAnalysis tutorial [tutorial](#)

-- KenjiHamano - 2016-09-08

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This topic: Main > KHMCGen

Topic revision: r33 - 2022-03-23 - KenjiHamano



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