

## Madgraph ggF Higgs to ZZ to 4 leptons with upto 2 ME jets Matched and Merged with Parton Shower

Note that the following jobOptions can be used for event generation only with a gridpack. They are not to be used for generating the gridpack. The gridpack generation requires modifying parts of MadGraph code and thus can only be generated using a local copy of MadGraph.

For more details on this production, see: <https://indico.cern.ch/event/932201/contributions/3995249/>

### SBI type process

Control jobOptions: MadGraphControl\_Py8EG\_ggZZ\_jets.py

(Note: there are more events being produced for the following processes and the plots will be updated with more statistics at most by Monday evening)

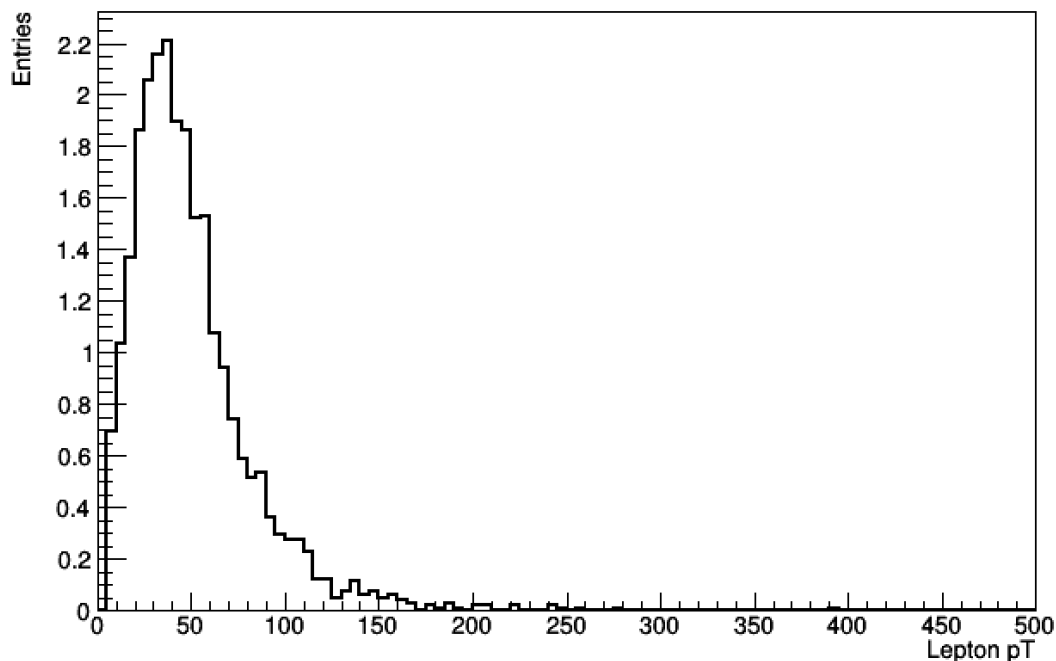
#### 0+1j part of the sample

Athena log: log\_01j.generate

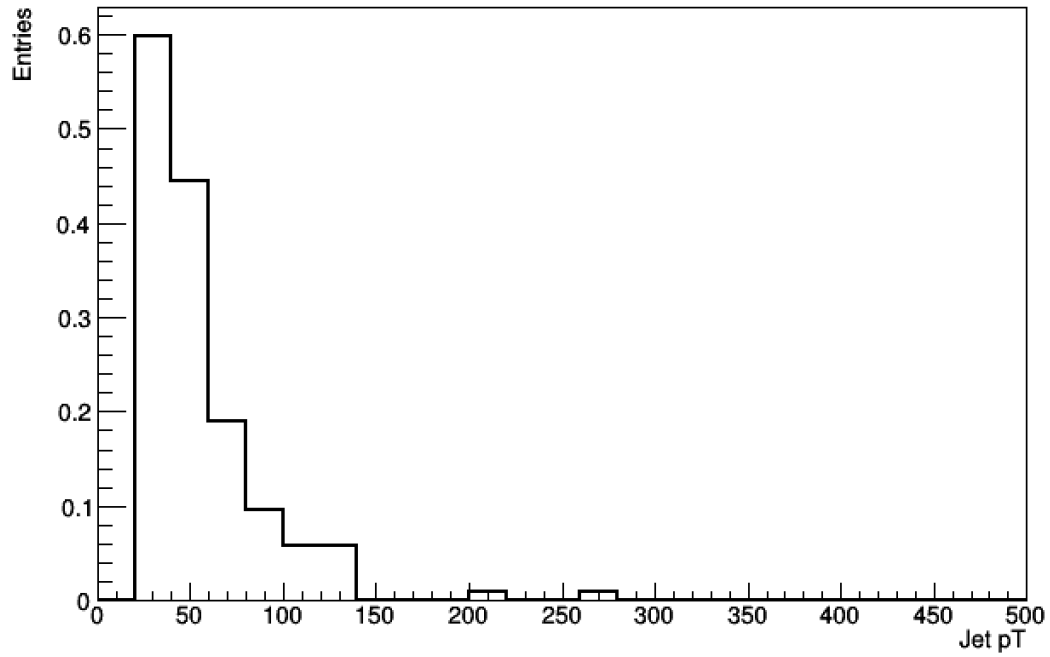
jobOptions used: mc.MGPy8EG\_A14\_NNPDF23LO\_ggZZ4l01j\_sbi\_m41180.py

Validation plots:

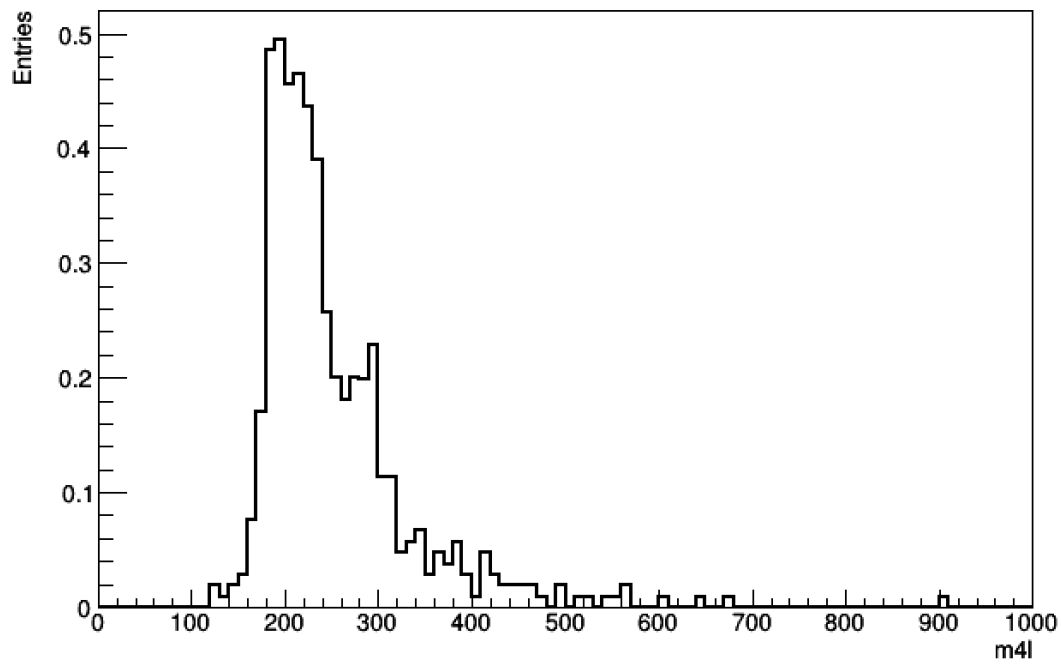
Lepton transverse momentum



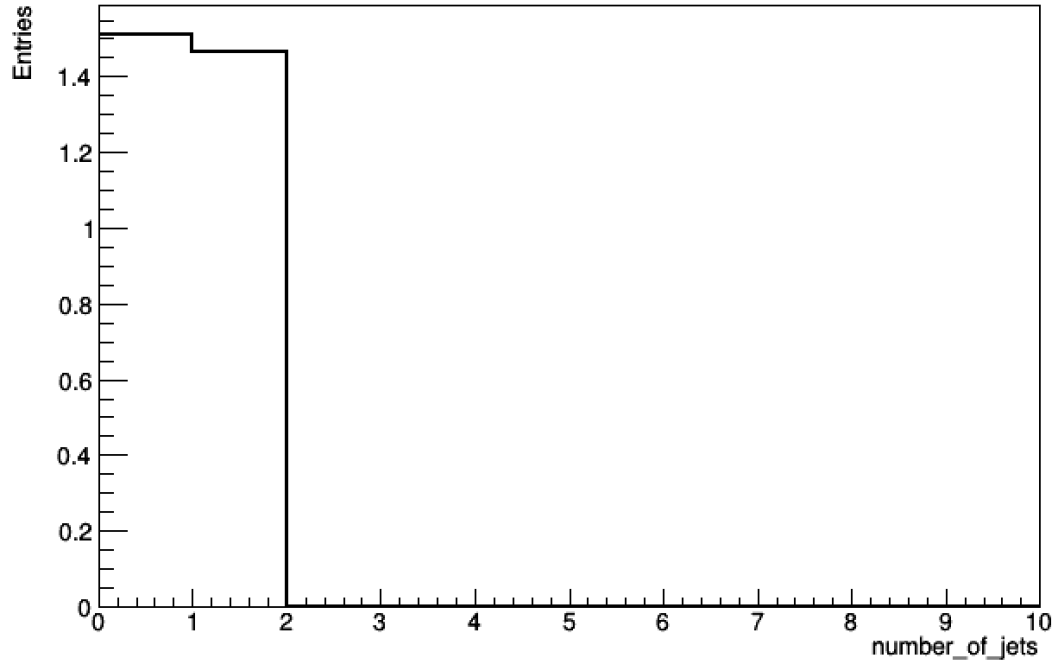
### Jet transverse momentum



### Invariant mass of the 4l final state



### Number of Jets



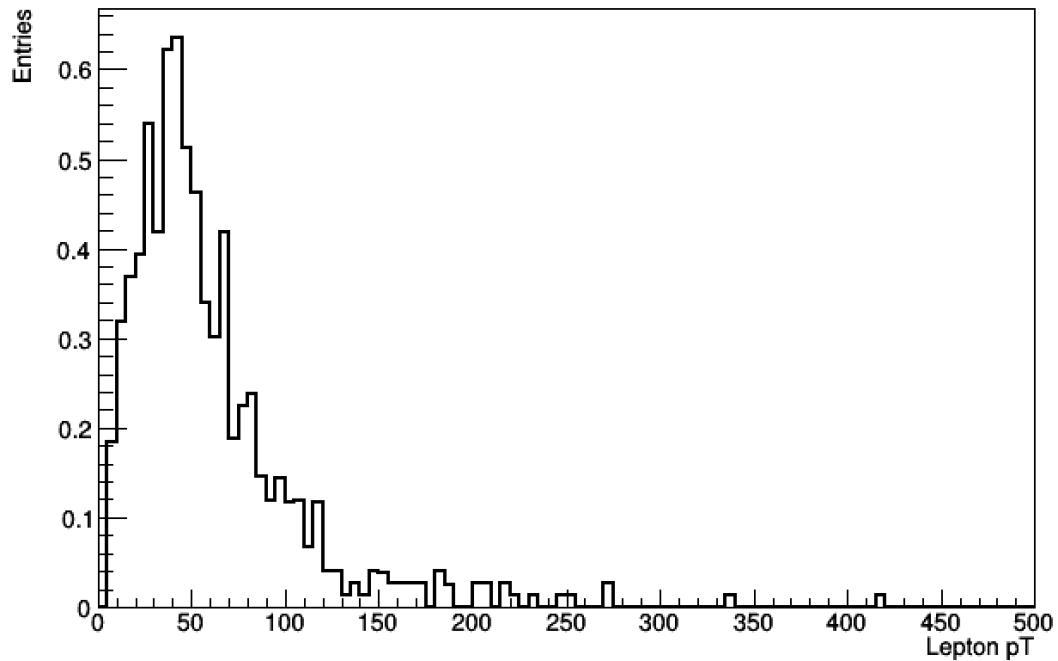
#### 2j part of the sample

Athena log: log\_2j.generate

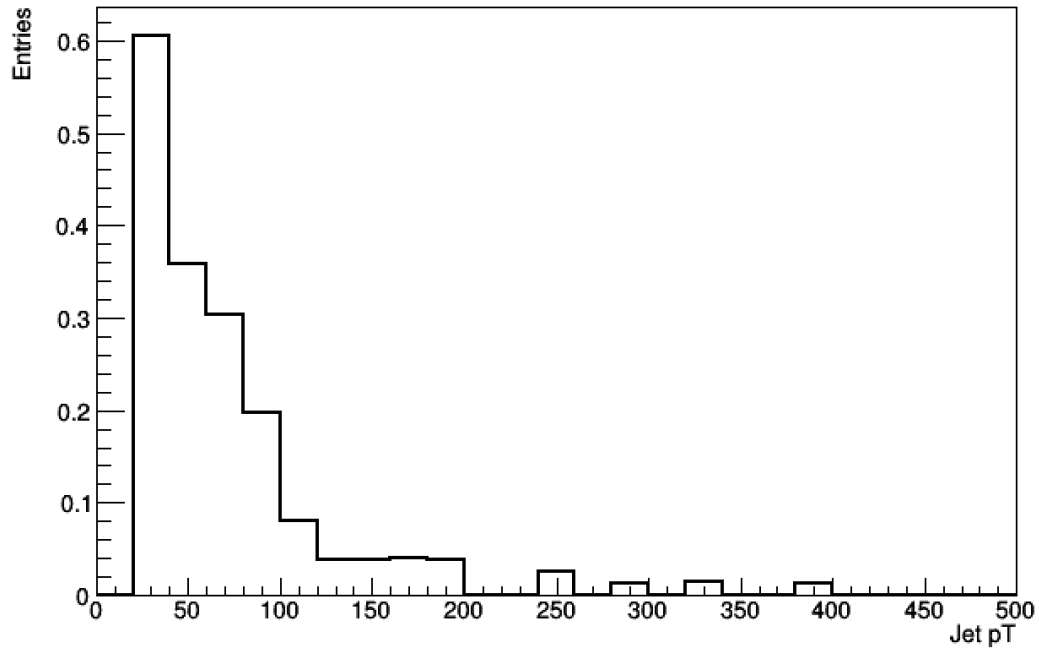
jobOptions used: mc.MGPy8EG\_A14\_NNPDF23LO\_ggZZ4l2j\_sbi\_mZZ180.py

Validation plots:

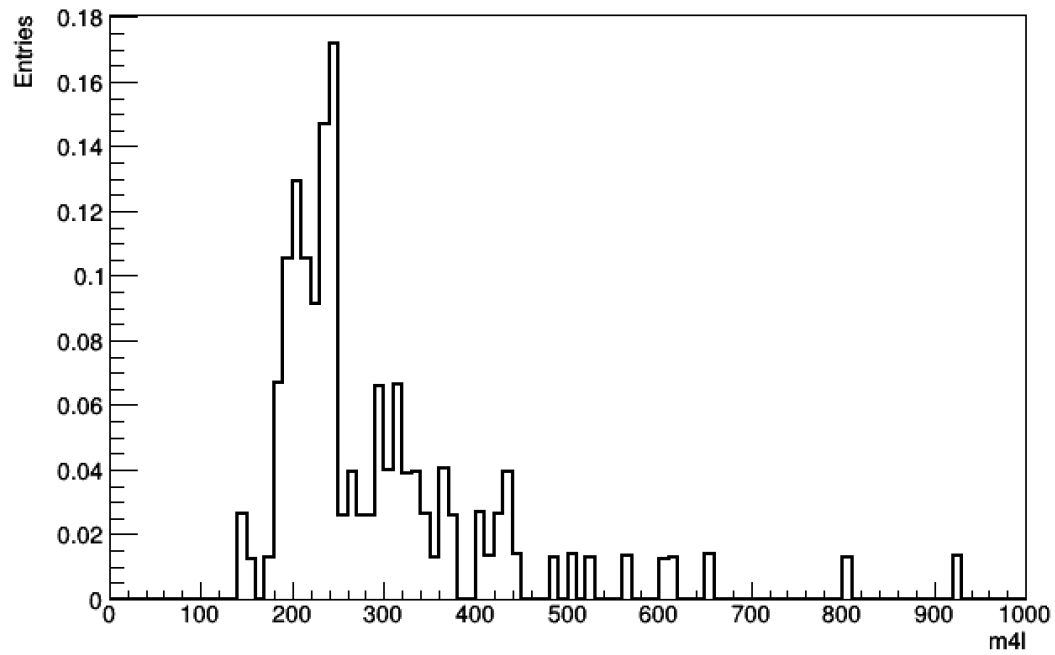
### Lepton transverse momentum



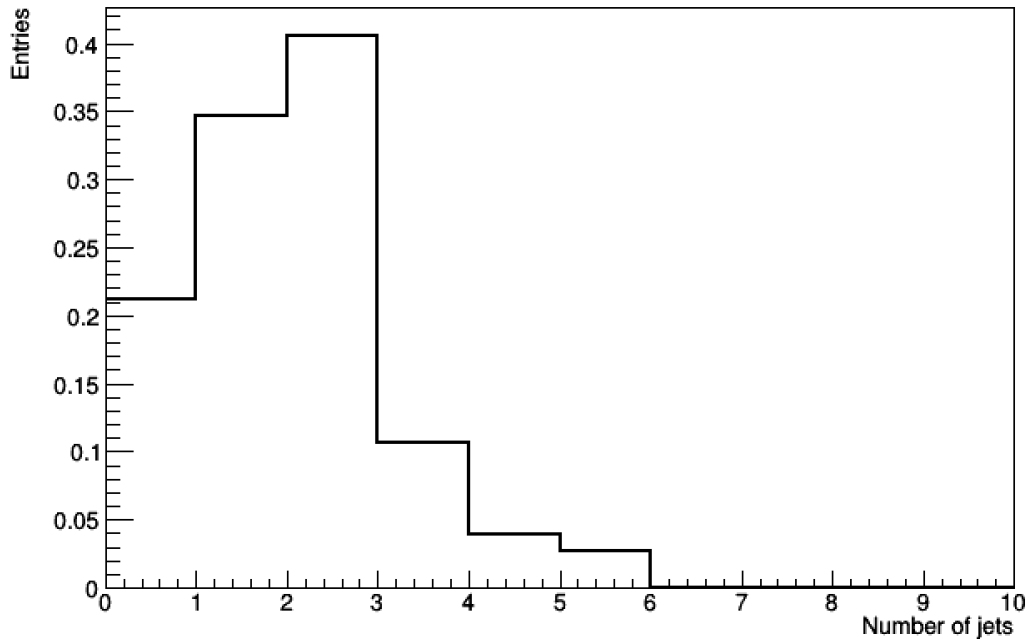
Jet transverse momentum



Invariant mass of the 4l final state



### Number of Jets



-- JayAjitbhaiSandesara - 2021-06-17

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This topic: Sandbox > MadGraphMLMMergedGluonFusion2j

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