

Table 1: JES percent  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 12.15        | 12.60         |
| herwig.wz           | 11.34        | 11.61         |
| herwig.zz           | 12.43        | 5.87          |
| herwig.vv           | 11.96        | 12.28         |
| mcatnlo.ttbar       | 8.69         | 8.63          |
| mcatnlo.top         | 8.82         | 8.73          |
| mcatnlo.singletop   | 9.84         | 9.53          |
| alpgen.wjets        | 10.34        | 10.28         |
| alpgen.zjets        | 10.20        | 7.82          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 3.92         | 3.96          |
| rsg.m750.kmpl0_1    | 2.20         | 1.60          |
| rsg.m1000.kmpl0_1   | 2.57         | 2.32          |
| rsg.m1250.kmpl0_1   | 2.86         | 2.44          |
| rsg.m1500.kmpl0_1   | 2.89         | 2.46          |
| wprime.wz.m500      | 4.52         | 3.19          |
| wprime.wz.m600      | 1.97         | 2.63          |
| wprime.wz.m700      | 1.88         | 1.35          |
| wprime.wz.m800      | 1.47         | 0.91          |
| wprime.wz.m900      | 1.68         | 1.38          |
| wprime.wz.m1000     | 1.96         | 2.38          |
| wprime.wz.m1100     | 2.83         | 2.16          |
| wprime.wz.m1200     | 2.65         | 2.99          |
| wprime.wz.m1300     | 2.76         | 3.56          |
| wprime.wz.m1400     | 3.40         | 2.75          |
| wprime.wz.m1500     | 3.65         | 3.24          |
| afii.kkg.lvjj.m500  | 3.86         | 3.66          |
| afii.kkg.lvjj.m600  | 2.35         | 2.42          |
| afii.kkg.lvjj.m700  | 2.00         | 1.77          |
| afii.kkg.lvjj.m800  | 2.97         | 3.14          |
| afii.kkg.lvjj.m900  | 5.03         | 3.76          |
| afii.kkg.lvjj.m1000 | 6.19         | 6.17          |
| afii.kkg.lvjj.m1100 | 9.91         | 7.46          |
| afii.kkg.lvjj.m1200 | 8.49         | 7.87          |
| afii.kkg.lvjj.m1300 | 9.10         | 8.76          |
| afii.kkg.lvjj.m1400 | 9.69         | 9.81          |
| afii.kkg.lvjj.m1500 | 9.86         | 9.25          |

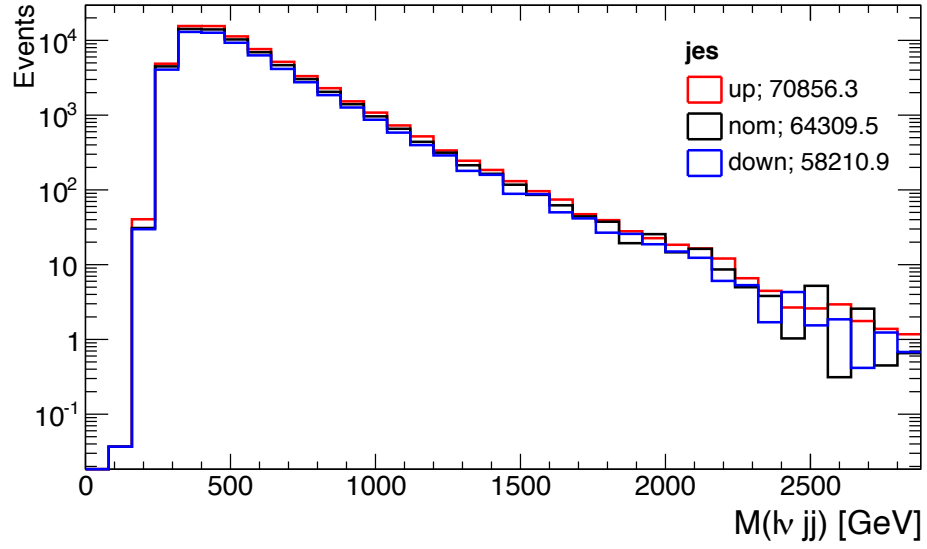
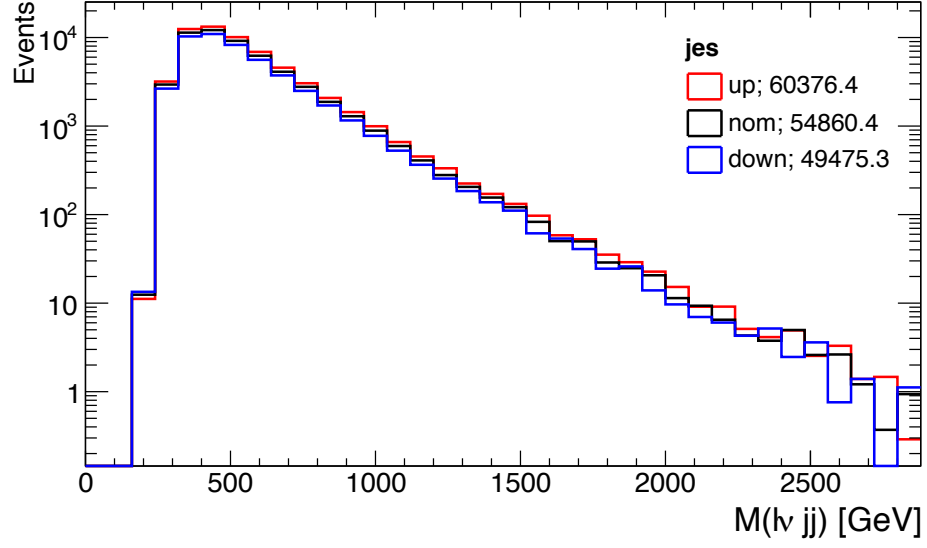


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

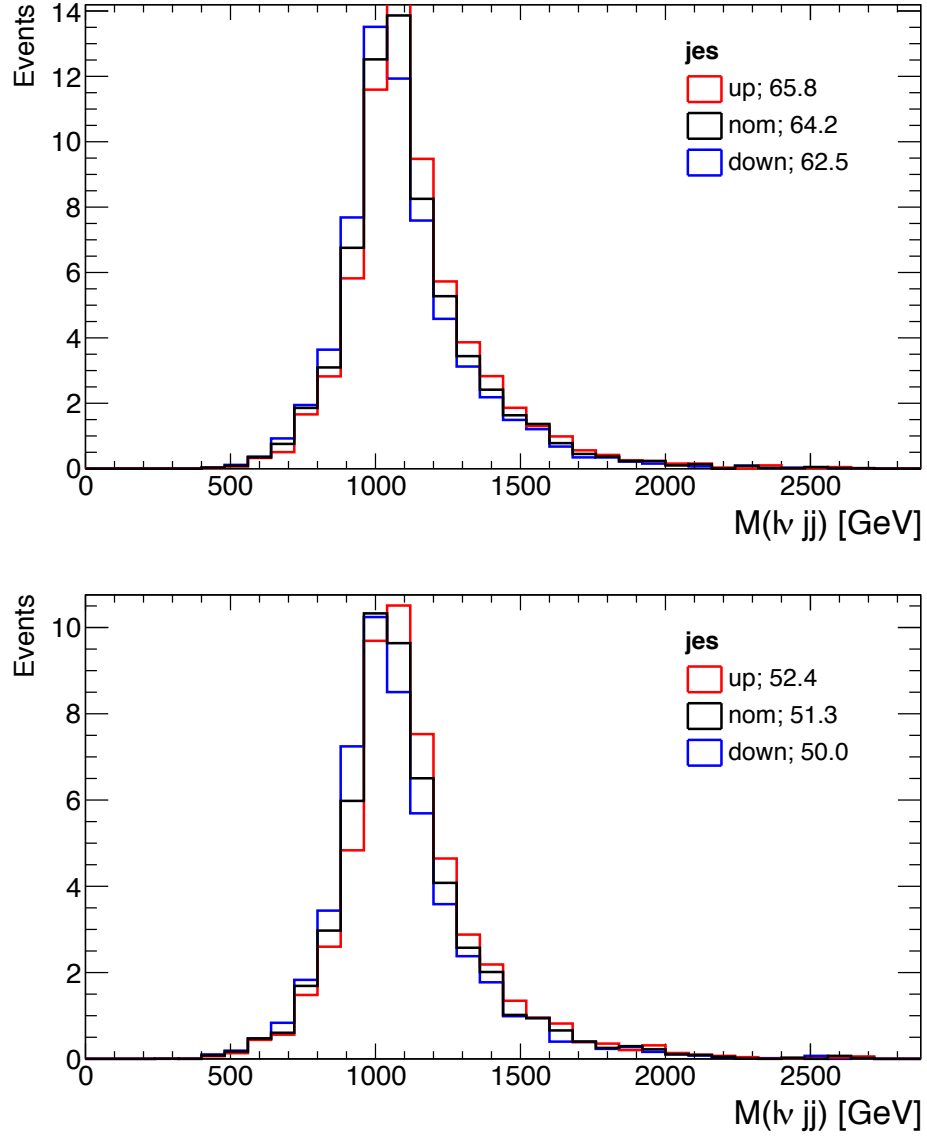


Figure 2:  $G^*$  ( $M=1000$ ) Transverse mass of the system for electron (top) and muon (bottom) channels

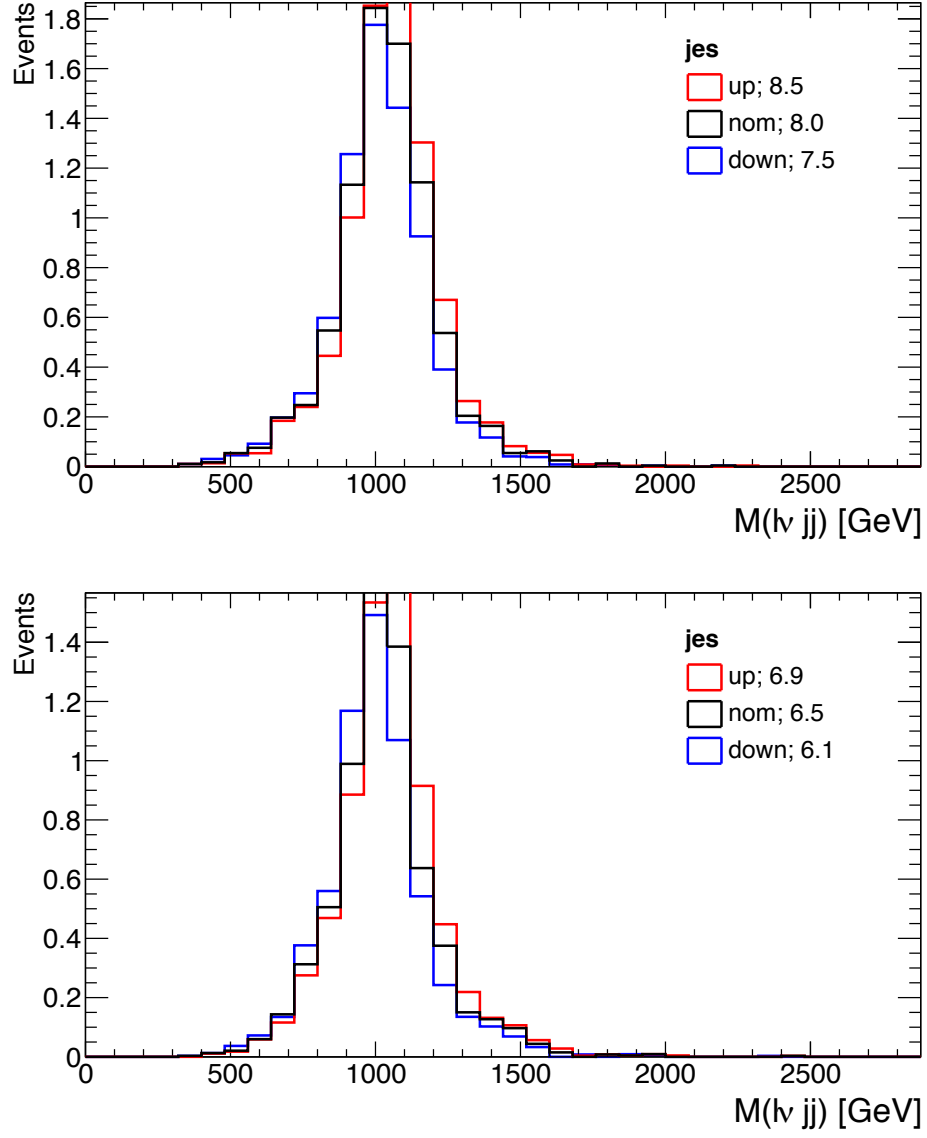


Figure 3:  $G_{kk}$  ( $M=1000$ ) Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: JER percent  $\Delta$  Acceptance in signal region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.34         | 0.22          |
| herwig.wz           | 0.59         | 0.50          |
| herwig.zz           | 1.22         | 3.67          |
| herwig.vv           | 0.40         | 0.33          |
| mcatnlo.ttbar       | 1.23         | 0.14          |
| mcatnlo.top         | 1.23         | 0.07          |
| mcatnlo.singletop   | 1.21         | 0.44          |
| alpgen.wjets        | 0.78         | 0.76          |
| alpgen.zjets        | 1.86         | 5.34          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.85         | 0.98          |
| rsg.m750.kmpl0_1    | 0.13         | 0.37          |
| rsg.m1000.kmpl0_1   | 0.26         | 0.49          |
| rsg.m1250.kmpl0_1   | 0.22         | 0.76          |
| rsg.m1500.kmpl0_1   | 0.13         | 0.60          |
| wprime.wz.m500      | 0.30         | 0.93          |
| wprime.wz.m600      | 0.39         | 0.17          |
| wprime.wz.m700      | 0.72         | 0.52          |
| wprime.wz.m800      | 0.51         | 0.17          |
| wprime.wz.m900      | 0.01         | 0.36          |
| wprime.wz.m1000     | 0.34         | 1.26          |
| wprime.wz.m1100     | 0.35         | 0.45          |
| wprime.wz.m1200     | 0.59         | 1.01          |
| wprime.wz.m1300     | 0.33         | 0.43          |
| wprime.wz.m1400     | 0.72         | 1.34          |
| wprime.wz.m1500     | 0.66         | 0.66          |
| afii.kkg.lvjj.m500  | 0.63         | 0.71          |
| afii.kkg.lvjj.m600  | 0.42         | 0.49          |
| afii.kkg.lvjj.m700  | 0.33         | 0.62          |
| afii.kkg.lvjj.m800  | 0.43         | 0.26          |
| afii.kkg.lvjj.m900  | 0.58         | 0.52          |
| afii.kkg.lvjj.m1000 | 0.26         | 0.39          |
| afii.kkg.lvjj.m1100 | 0.38         | 0.68          |
| afii.kkg.lvjj.m1200 | 0.69         | 0.56          |
| afii.kkg.lvjj.m1300 | 0.91         | 0.56          |
| afii.kkg.lvjj.m1400 | 2.47         | 0.50          |
| afii.kkg.lvjj.m1500 | 0.89         | 0.86          |

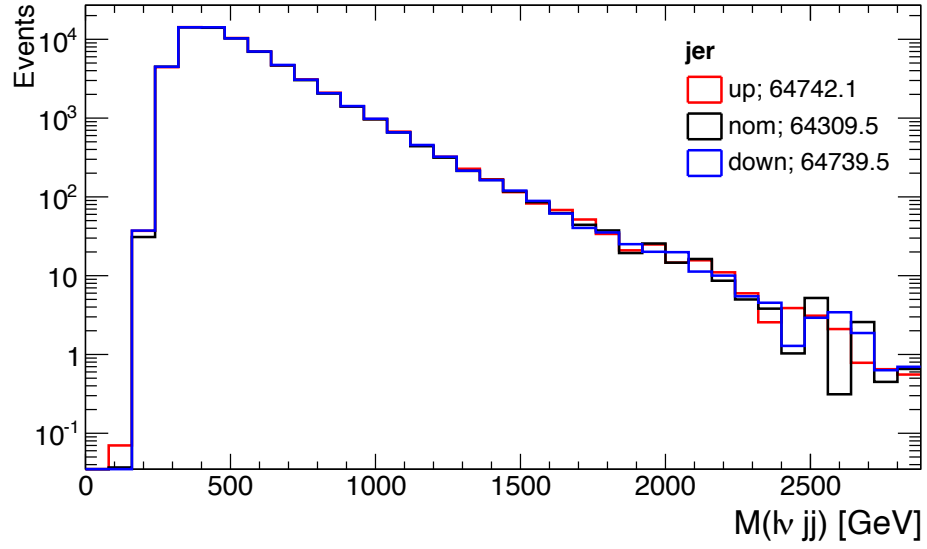
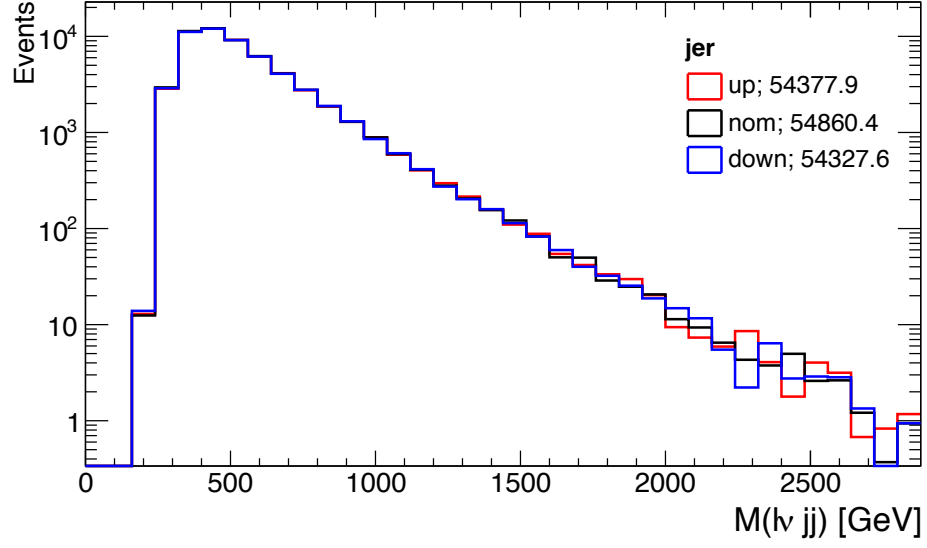


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

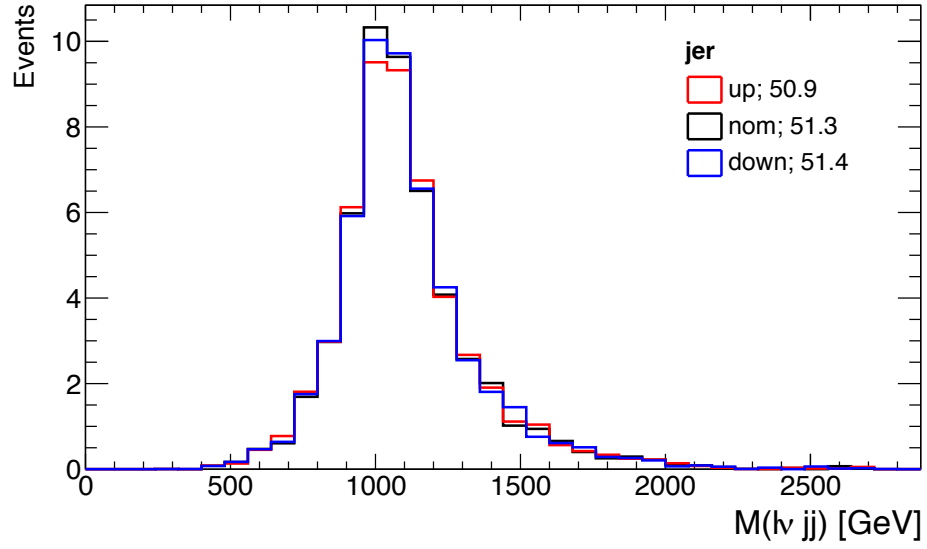
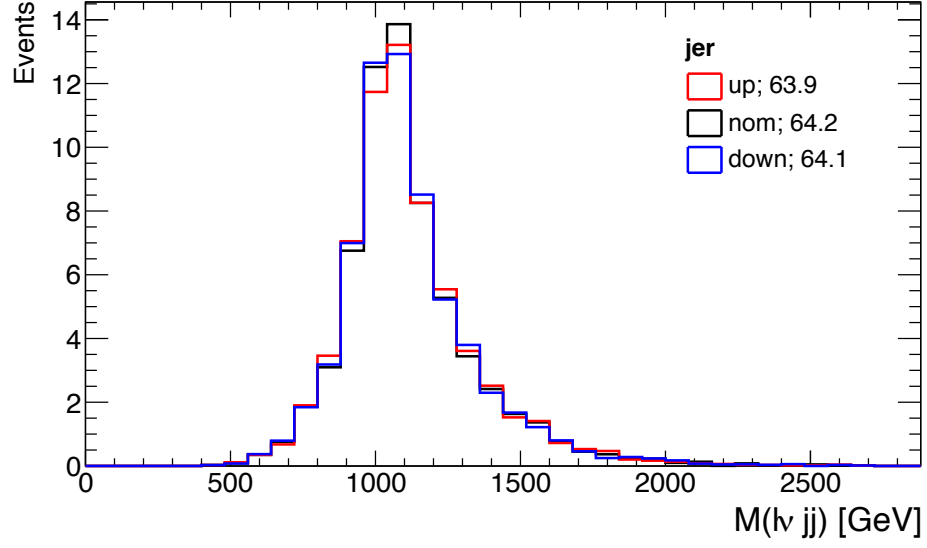


Figure 2: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: LES percent  $\Delta$  acceptance in signal region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.19         | 0.13          |
| herwig.wz           | 0.12         | 0.22          |
| herwig.zz           | 0.37         | 2.08          |
| herwig.vv           | 0.16         | 0.09          |
| mcatnlo.ttbar       | 0.22         | 0.12          |
| mcatnlo.top         | 0.23         | 0.13          |
| mcatnlo.singletop   | 0.33         | 0.19          |
| alpgen.wjets        | 0.32         | 0.19          |
| alpgen.zjets        | 0.20         | 2.06          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.05         | 0.05          |
| rsg.m750.kmpl0_1    | 0.05         | 0.28          |
| rsg.m1000.kmpl0_1   | 0.03         | 0.18          |
| rsg.m1250.kmpl0_1   | 0.03         | 0.24          |
| rsg.m1500.kmpl0_1   | 0.02         | 0.60          |
| wprime.wz.m500      | 0.05         | 0.11          |
| wprime.wz.m600      | 0.02         | 0.33          |
| wprime.wz.m700      | 0.06         | 0.06          |
| wprime.wz.m800      | 0.02         | 0.09          |
| wprime.wz.m900      | 0.00         | 0.13          |
| wprime.wz.m1000     | 0.00         | 0.00          |
| wprime.wz.m1100     | 0.05         | 0.05          |
| wprime.wz.m1200     | 0.00         | 0.05          |
| wprime.wz.m1300     | 0.00         | 0.13          |
| wprime.wz.m1400     | 0.00         | 0.39          |
| wprime.wz.m1500     | 0.07         | 0.51          |
| afii.kkg.lvjj.m500  | 0.08         | 0.09          |
| afii.kkg.lvjj.m600  | 0.01         | 0.12          |
| afii.kkg.lvjj.m700  | 0.02         | 0.03          |
| afii.kkg.lvjj.m800  | 0.00         | 0.09          |
| afii.kkg.lvjj.m900  | 0.04         | 0.17          |
| afii.kkg.lvjj.m1000 | 0.00         | 0.28          |
| afii.kkg.lvjj.m1100 | 0.07         | 0.27          |
| afii.kkg.lvjj.m1200 | 0.00         | 0.08          |
| afii.kkg.lvjj.m1300 | 0.04         | 0.12          |
| afii.kkg.lvjj.m1400 | 0.00         | 0.35          |
| afii.kkg.lvjj.m1500 | 0.07         | 0.65          |



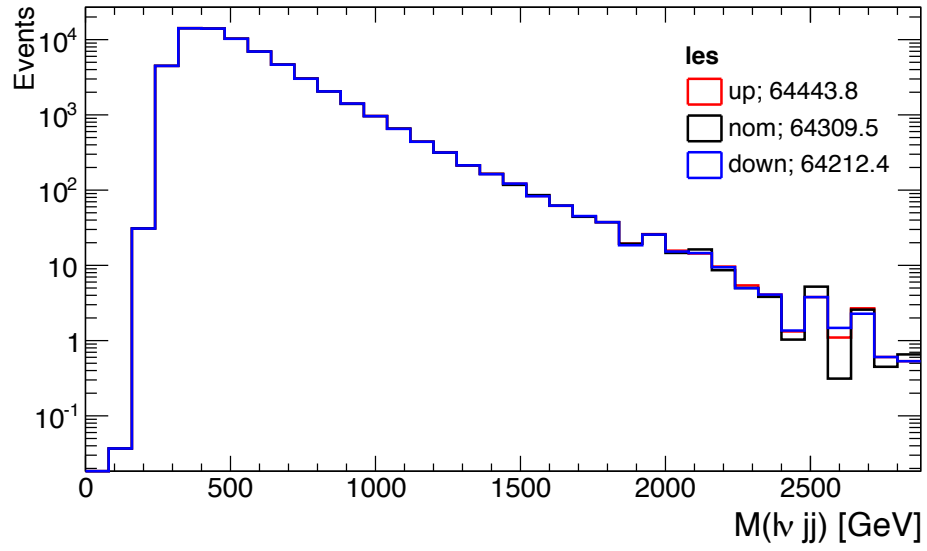
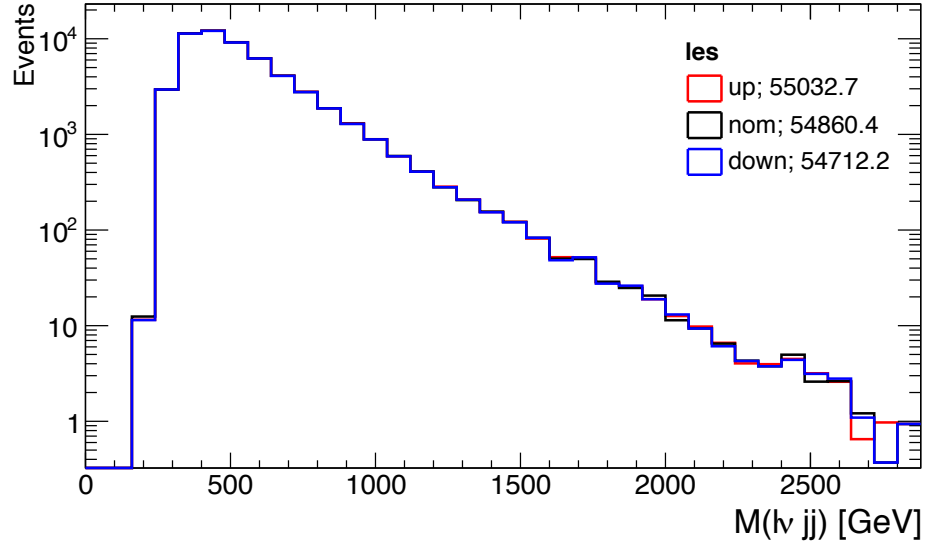


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: ler Fractional  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.04         | 0.36          |
| herwig.wz           | 0.05         | 0.59          |
| herwig.zz           | 0.04         | 4.87          |
| herwig.vv           | 0.04         | 0.47          |
| mcatnlo.ttbar       | 0.03         | 1.08          |
| mcatnlo.top         | 0.03         | 1.04          |
| mcatnlo.singletop   | 0.15         | 0.75          |
| alpgen.wjets        | 0.03         | 0.24          |
| alpgen.zjets        | 0.15         | 3.54          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.08         | 0.32          |
| rsg.m750.kmpl0_1    | 0.07         | 0.39          |
| rsg.m1000.kmpl0_1   | 0.02         | 0.91          |
| rsg.m1250.kmpl0_1   | 0.03         | 1.81          |
| rsg.m1500.kmpl0_1   | 0.07         | 1.74          |
| wprime.wz.m500      | 0.03         | 0.51          |
| wprime.wz.m600      | 0.01         | 0.52          |
| wprime.wz.m700      | 0.02         | 0.91          |
| wprime.wz.m800      | 0.02         | 0.91          |
| wprime.wz.m900      | 0.00         | 1.32          |
| wprime.wz.m1000     | 0.05         | 0.80          |
| wprime.wz.m1100     | 0.03         | 1.03          |
| wprime.wz.m1200     | 0.04         | 1.43          |
| wprime.wz.m1300     | 0.00         | 1.66          |
| wprime.wz.m1400     | 0.00         | 2.17          |
| wprime.wz.m1500     | 0.03         | 2.19          |
| afii.kkg.lvjj.m500  | 0.04         | 0.01          |
| afii.kkg.lvjj.m600  | 0.05         | 0.10          |
| afii.kkg.lvjj.m700  | 0.02         | 0.04          |
| afii.kkg.lvjj.m800  | 0.08         | 0.06          |
| afii.kkg.lvjj.m900  | 0.04         | 0.32          |
| afii.kkg.lvjj.m1000 | 0.00         | 0.57          |
| afii.kkg.lvjj.m1100 | 0.10         | 0.49          |
| afii.kkg.lvjj.m1200 | 0.00         | 0.28          |
| afii.kkg.lvjj.m1300 | 0.07         | 0.50          |
| afii.kkg.lvjj.m1400 | 0.00         | 0.62          |
| afii.kkg.lvjj.m1500 | 0.14         | 0.72          |

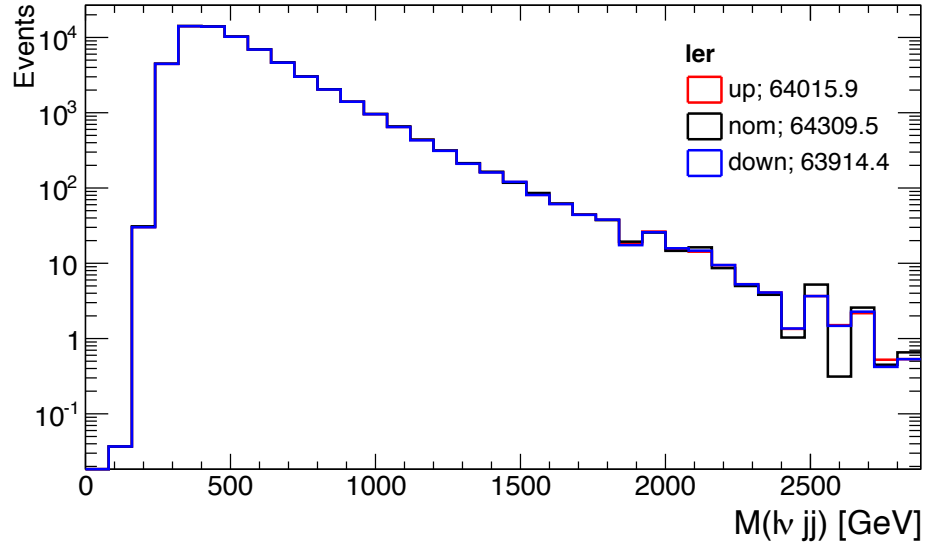
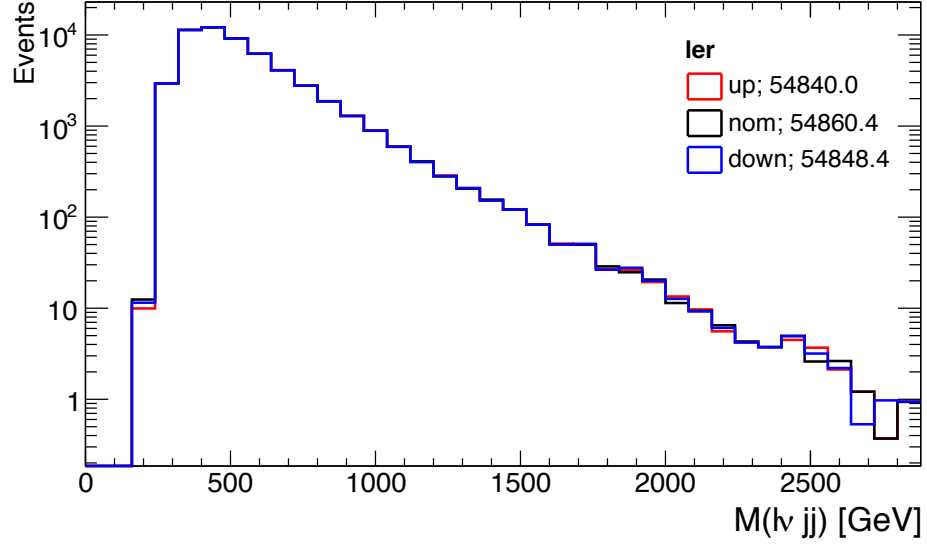


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: Lepton ID scale factor, fractional  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.97         | 0.04          |
| herwig.wz           | 0.97         | 0.04          |
| herwig.zz           | 0.95         | 0.04          |
| herwig.vv           | 0.97         | 0.04          |
| mcatnlo.ttbar       | 0.91         | 0.04          |
| mcatnlo.top         | 0.90         | 0.04          |
| mcatnlo.singletop   | 0.90         | 0.04          |
| alpgen.wjets        | 1.00         | 0.04          |
| alpgen.zjets        | 1.00         | 0.04          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.88         | 0.04          |
| rsg.m750.kmpl0_1    | 0.88         | 0.04          |
| rsg.m1000.kmpl0_1   | 0.88         | 0.04          |
| rsg.m1250.kmpl0_1   | 0.89         | 0.04          |
| rsg.m1500.kmpl0_1   | 0.89         | 0.04          |
| wprime.wz.m500      | 0.92         | 0.04          |
| wprime.wz.m600      | 0.89         | 0.04          |
| wprime.wz.m700      | 0.89         | 0.04          |
| wprime.wz.m800      | 0.88         | 0.04          |
| wprime.wz.m900      | 0.87         | 0.04          |
| wprime.wz.m1000     | 0.87         | 0.04          |
| wprime.wz.m1100     | 0.87         | 0.04          |
| wprime.wz.m1200     | 0.88         | 0.04          |
| wprime.wz.m1300     | 0.87         | 0.04          |
| wprime.wz.m1400     | 0.87         | 0.04          |
| wprime.wz.m1500     | 0.87         | 0.04          |
| afii.kkg.lvjj.m500  | 0.87         | 0.04          |
| afii.kkg.lvjj.m600  | 0.86         | 0.04          |
| afii.kkg.lvjj.m700  | 0.86         | 0.04          |
| afii.kkg.lvjj.m800  | 0.85         | 0.04          |
| afii.kkg.lvjj.m900  | 0.86         | 0.04          |
| afii.kkg.lvjj.m1000 | 0.85         | 0.04          |
| afii.kkg.lvjj.m1100 | 0.85         | 0.04          |
| afii.kkg.lvjj.m1200 | 0.84         | 0.04          |
| afii.kkg.lvjj.m1300 | 0.84         | 0.04          |
| afii.kkg.lvjj.m1400 | 0.84         | 0.04          |
| afii.kkg.lvjj.m1500 | 0.83         | 0.04          |

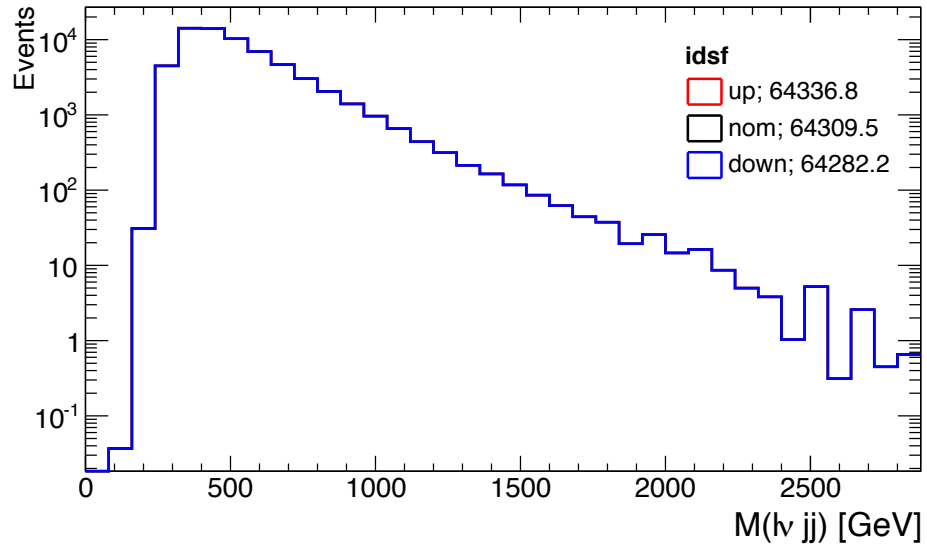
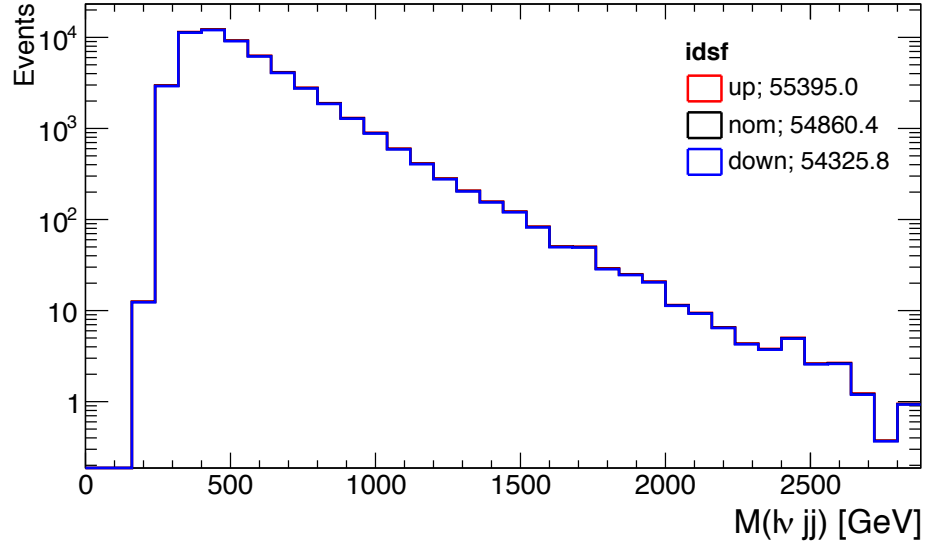


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: Lepton isolation scale factor, fractional  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 2.00         | 1.00          |
| herwig.wz           | 2.00         | 1.00          |
| herwig.zz           | 2.00         | 1.00          |
| herwig.vv           | 2.00         | 1.00          |
| mcatnlo.ttbar       | 2.00         | 1.00          |
| mcatnlo.top         | 2.00         | 1.00          |
| mcatnlo.singletop   | 2.00         | 1.00          |
| alpgen.wjets        | 2.00         | 1.00          |
| alpgen.zjets        | 2.00         | 1.00          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 2.00         | 1.00          |
| rsg.m750.kmpl0_1    | 2.00         | 1.00          |
| rsg.m1000.kmpl0_1   | 2.00         | 1.00          |
| rsg.m1250.kmpl0_1   | 2.00         | 1.00          |
| rsg.m1500.kmpl0_1   | 2.00         | 1.00          |
| wprime.wz.m500      | 2.00         | 1.00          |
| wprime.wz.m600      | 2.00         | 1.00          |
| wprime.wz.m700      | 2.00         | 1.00          |
| wprime.wz.m800      | 2.00         | 1.00          |
| wprime.wz.m900      | 2.00         | 1.00          |
| wprime.wz.m1000     | 2.00         | 1.00          |
| wprime.wz.m1100     | 2.00         | 1.00          |
| wprime.wz.m1200     | 2.00         | 1.00          |
| wprime.wz.m1300     | 2.00         | 1.00          |
| wprime.wz.m1400     | 2.00         | 1.00          |
| wprime.wz.m1500     | 2.00         | 1.00          |
| afii.kkg.lvjj.m500  | 2.00         | 1.00          |
| afii.kkg.lvjj.m600  | 2.00         | 1.00          |
| afii.kkg.lvjj.m700  | 2.00         | 1.00          |
| afii.kkg.lvjj.m800  | 2.00         | 1.00          |
| afii.kkg.lvjj.m900  | 2.00         | 1.00          |
| afii.kkg.lvjj.m1000 | 2.00         | 1.00          |
| afii.kkg.lvjj.m1100 | 2.00         | 1.00          |
| afii.kkg.lvjj.m1200 | 2.00         | 1.00          |
| afii.kkg.lvjj.m1300 | 2.00         | 1.00          |
| afii.kkg.lvjj.m1400 | 2.00         | 1.00          |
| afii.kkg.lvjj.m1500 | 2.00         | 1.00          |

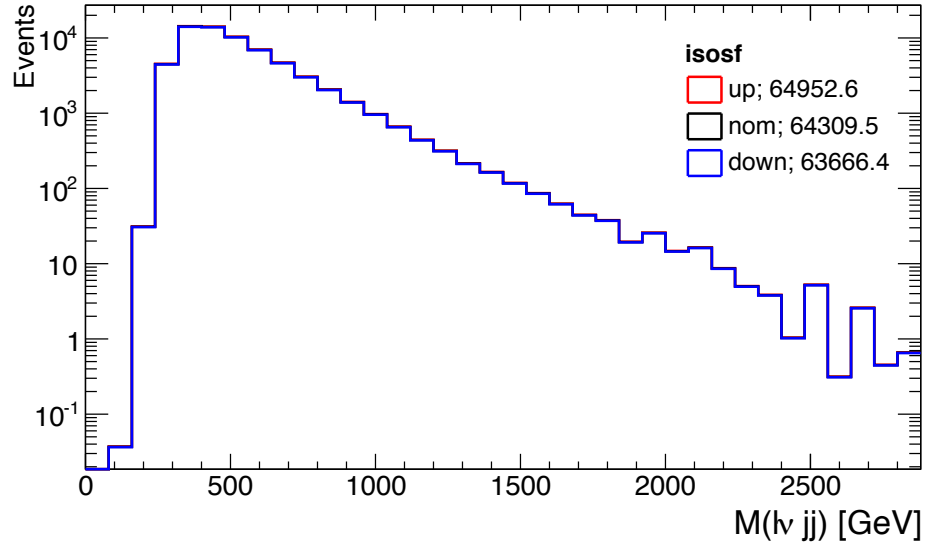
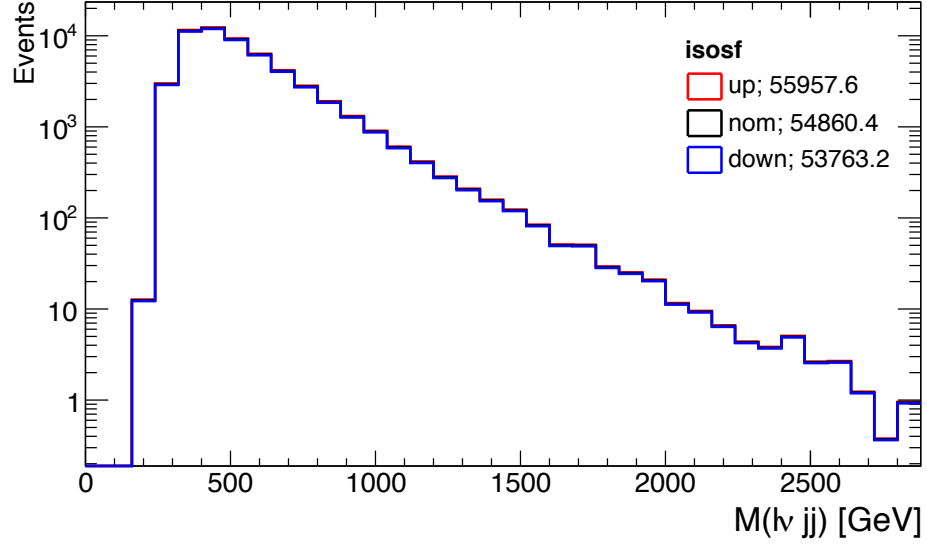


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: Lepton reconstruction scale factor, fractional  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.82         | 0.36          |
| herwig.wz           | 0.81         | 0.36          |
| herwig.zz           | 0.80         | 0.37          |
| herwig.vv           | 0.81         | 0.36          |
| mcatnlo.ttbar       | 0.86         | 0.34          |
| mcatnlo.top         | 0.86         | 0.34          |
| mcatnlo.singletop   | 0.86         | 0.34          |
| alpgen.wjets        | 0.79         | 0.35          |
| alpgen.zjets        | 0.79         | 0.37          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.88         | 0.36          |
| rsg.m750.kmpl0_1    | 0.88         | 0.39          |
| rsg.m1000.kmpl0_1   | 0.88         | 0.41          |
| rsg.m1250.kmpl0_1   | 0.88         | 0.43          |
| rsg.m1500.kmpl0_1   | 0.88         | 0.46          |
| wprime.wz.m500      | 0.85         | 0.37          |
| wprime.wz.m600      | 0.86         | 0.38          |
| wprime.wz.m700      | 0.86         | 0.39          |
| wprime.wz.m800      | 0.88         | 0.40          |
| wprime.wz.m900      | 0.88         | 0.41          |
| wprime.wz.m1000     | 0.88         | 0.42          |
| wprime.wz.m1100     | 0.89         | 0.43          |
| wprime.wz.m1200     | 0.88         | 0.44          |
| wprime.wz.m1300     | 0.90         | 0.45          |
| wprime.wz.m1400     | 0.89         | 0.46          |
| wprime.wz.m1500     | 0.91         | 0.47          |
| afii.kkg.lvjj.m500  | 0.88         | 0.36          |
| afii.kkg.lvjj.m600  | 0.90         | 0.37          |
| afii.kkg.lvjj.m700  | 0.91         | 0.38          |
| afii.kkg.lvjj.m800  | 0.91         | 0.39          |
| afii.kkg.lvjj.m900  | 0.90         | 0.40          |
| afii.kkg.lvjj.m1000 | 0.93         | 0.41          |
| afii.kkg.lvjj.m1100 | 0.93         | 0.42          |
| afii.kkg.lvjj.m1200 | 0.94         | 0.43          |
| afii.kkg.lvjj.m1300 | 0.94         | 0.44          |
| afii.kkg.lvjj.m1400 | 0.95         | 0.45          |
| afii.kkg.lvjj.m1500 | 0.96         | 0.45          |



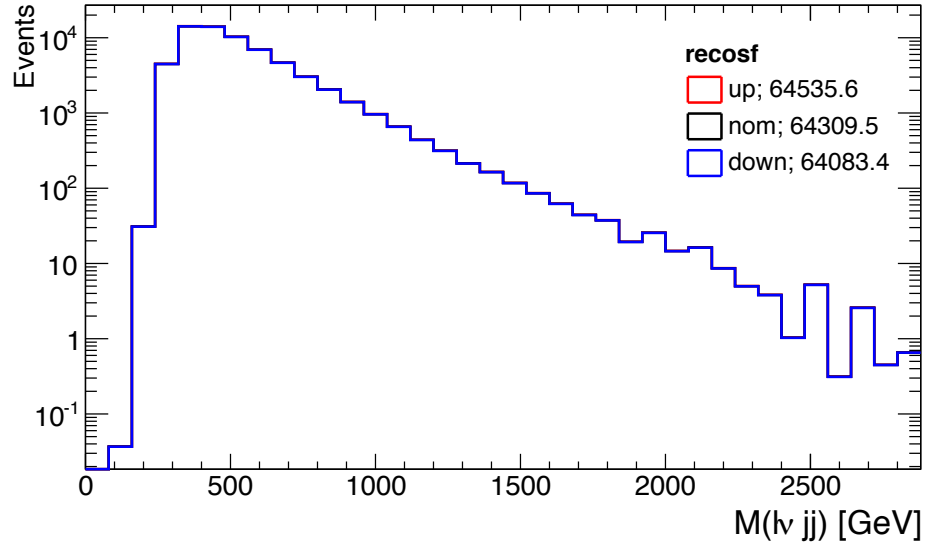
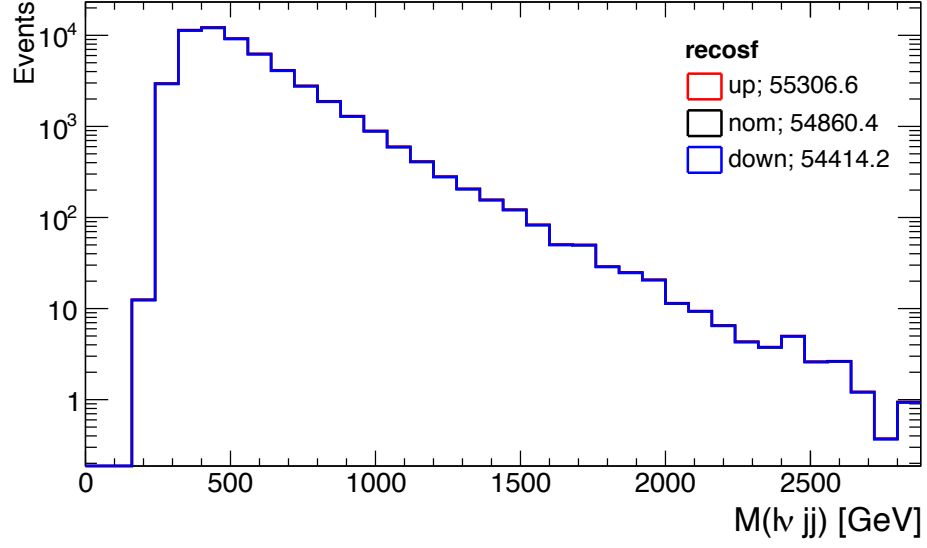


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: Lepton trigger scale factor, fractional  $\Delta$  Acceptance in High Mass control region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.57         | 1.70          |
| herwig.wz           | 0.56         | 1.70          |
| herwig.zz           | 0.56         | 1.72          |
| herwig.vv           | 0.57         | 1.70          |
| mcadnlo.ttbar       | 0.56         | 1.73          |
| mcadnlo.top         | 0.56         | 1.73          |
| mcadnlo.singletop   | 0.56         | 1.72          |
| alpgen.wjets        | 0.56         | 1.69          |
| alpgen.zjets        | 0.56         | 1.68          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.56         | 1.74          |
| rsg.m750.kmpl0_1    | 0.56         | 1.73          |
| rsg.m1000.kmpl0_1   | 0.56         | 1.73          |
| rsg.m1250.kmpl0_1   | 0.56         | 1.73          |
| rsg.m1500.kmpl0_1   | 0.56         | 1.73          |
| wprime.wz.m500      | 0.56         | 1.72          |
| wprime.wz.m600      | 0.56         | 1.72          |
| wprime.wz.m700      | 0.56         | 1.72          |
| wprime.wz.m800      | 0.56         | 1.74          |
| wprime.wz.m900      | 0.55         | 1.73          |
| wprime.wz.m1000     | 0.55         | 1.75          |
| wprime.wz.m1100     | 0.55         | 1.73          |
| wprime.wz.m1200     | 0.56         | 1.76          |
| wprime.wz.m1300     | 0.55         | 1.74          |
| wprime.wz.m1400     | 0.56         | 1.76          |
| wprime.wz.m1500     | 0.55         | 1.74          |
| afii.kkg.lvjj.m500  | 0.56         | 1.74          |
| afii.kkg.lvjj.m600  | 0.56         | 1.75          |
| afii.kkg.lvjj.m700  | 0.55         | 1.74          |
| afii.kkg.lvjj.m800  | 0.56         | 1.73          |
| afii.kkg.lvjj.m900  | 0.56         | 1.75          |
| afii.kkg.lvjj.m1000 | 0.55         | 1.76          |
| afii.kkg.lvjj.m1100 | 0.56         | 1.75          |
| afii.kkg.lvjj.m1200 | 0.56         | 1.74          |
| afii.kkg.lvjj.m1300 | 0.55         | 1.74          |
| afii.kkg.lvjj.m1400 | 0.55         | 1.74          |
| afii.kkg.lvjj.m1500 | 0.55         | 1.75          |

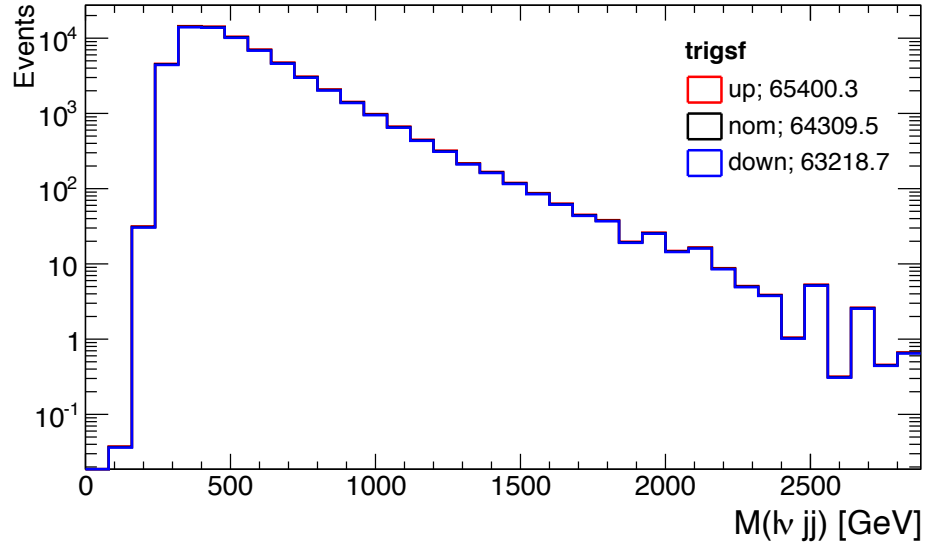
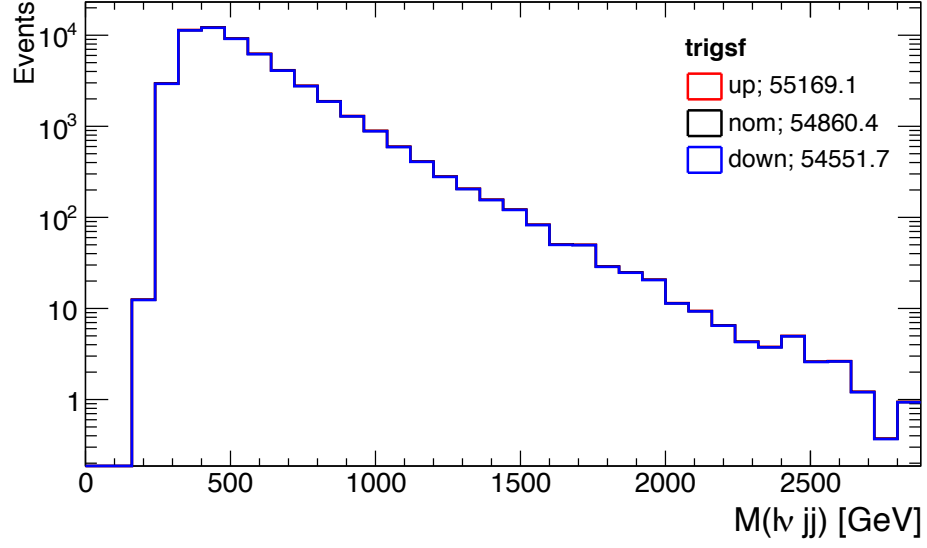


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: All Clusters fractional  $\Delta$  acceptance in signal region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.05         | 0.60          |
| herwig.wz           | 0.15         | 0.39          |
| herwig.zz           | 0.75         | 2.01          |
| herwig.vv           | 0.07         | 0.56          |
| mcatnlo.ttbar       | 0.14         | 0.36          |
| mcatnlo.top         | 0.15         | 0.39          |
| mcatnlo.singletop   | 0.27         | 0.62          |
| alpgen.wjets        | 0.26         | 0.73          |
| alpgen.zjets        | 2.45         | 3.44          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.03         | 0.17          |
| rsg.m750.kmpl0_1    | 0.05         | 0.30          |
| rsg.m1000.kmpl0_1   | 0.06         | 0.18          |
| rsg.m1250.kmpl0_1   | 0.02         | 0.28          |
| rsg.m1500.kmpl0_1   | 0.01         | 0.53          |
| wprime.wz.m500      | 0.07         | 0.16          |
| wprime.wz.m600      | 0.02         | 0.24          |
| wprime.wz.m700      | 0.03         | 0.07          |
| wprime.wz.m800      | 0.02         | 0.11          |
| wprime.wz.m900      | 0.05         | 0.18          |
| wprime.wz.m1000     | 0.00         | 0.04          |
| wprime.wz.m1100     | 0.04         | 0.09          |
| wprime.wz.m1200     | 0.00         | 0.04          |
| wprime.wz.m1300     | 0.00         | 0.17          |
| wprime.wz.m1400     | 0.03         | 0.43          |
| wprime.wz.m1500     | 0.07         | 0.50          |
| afii.kkg.lvjj.m500  | 0.00         | 0.02          |
| afii.kkg.lvjj.m600  | 0.03         | 0.14          |
| afii.kkg.lvjj.m700  | 0.01         | 0.07          |
| afii.kkg.lvjj.m800  | 0.02         | 0.11          |
| afii.kkg.lvjj.m900  | 0.04         | 0.15          |
| afii.kkg.lvjj.m1000 | 0.00         | 0.28          |
| afii.kkg.lvjj.m1100 | 0.00         | 0.23          |
| afii.kkg.lvjj.m1200 | 0.03         | 0.08          |
| afii.kkg.lvjj.m1300 | 0.00         | 0.12          |
| afii.kkg.lvjj.m1400 | 0.00         | 0.30          |
| afii.kkg.lvjj.m1500 | 0.04         | 0.69          |

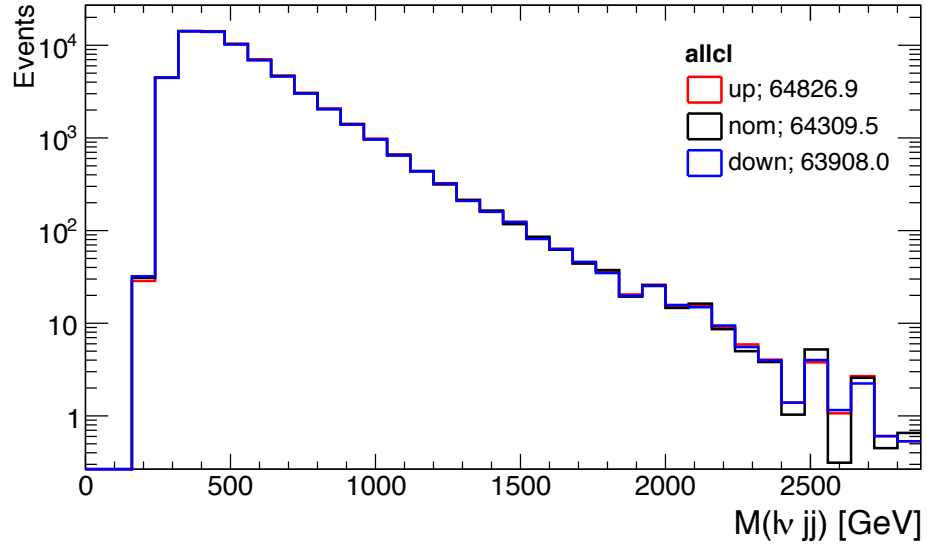
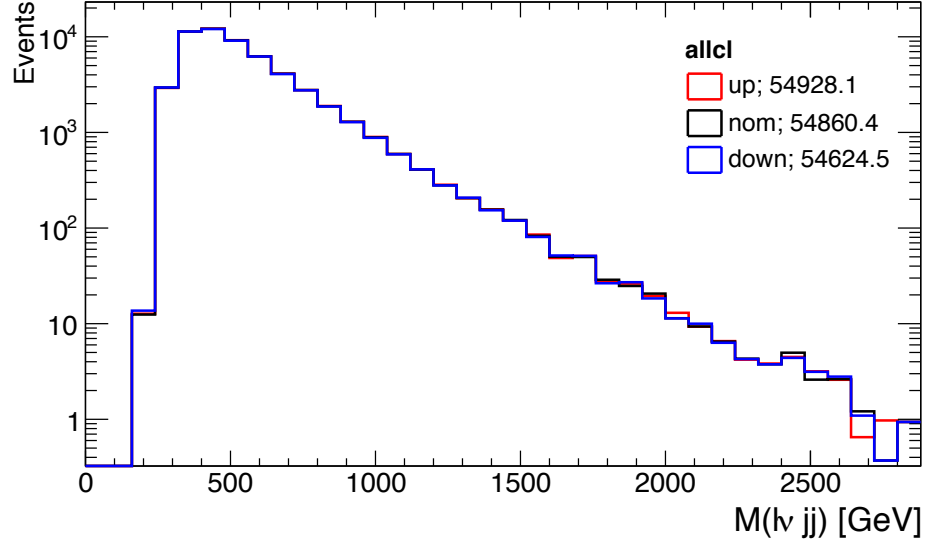


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: MET pileup fractional  $\Delta$  acceptance in signal region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | 0.03         | 0.56          |
| herwig.wz           | 0.10         | 0.44          |
| herwig.zz           | 0.75         | 1.84          |
| herwig.vv           | 0.05         | 0.55          |
| mcadnlo.ttbar       | 0.13         | 0.34          |
| mcadnlo.top         | 0.14         | 0.36          |
| mcadnlo.singletop   | 0.27         | 0.55          |
| alpgen.wjets        | 0.24         | 0.65          |
| alpgen.zjets        | 2.38         | 3.21          |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | 0.03         | 0.19          |
| rsg.m750.kmpl0_1    | 0.03         | 0.29          |
| rsg.m1000.kmpl0_1   | 0.05         | 0.14          |
| rsg.m1250.kmpl0_1   | 0.02         | 0.24          |
| rsg.m1500.kmpl0_1   | 0.02         | 0.54          |
| wprime.wz.m500      | 0.06         | 0.08          |
| wprime.wz.m600      | 0.02         | 0.24          |
| wprime.wz.m700      | 0.02         | 0.08          |
| wprime.wz.m800      | 0.02         | 0.11          |
| wprime.wz.m900      | 0.05         | 0.18          |
| wprime.wz.m1000     | 0.00         | 0.04          |
| wprime.wz.m1100     | 0.04         | 0.08          |
| wprime.wz.m1200     | 0.00         | 0.05          |
| wprime.wz.m1300     | 0.00         | 0.17          |
| wprime.wz.m1400     | 0.03         | 0.39          |
| wprime.wz.m1500     | 0.07         | 0.50          |
| afii.kkg.lvjj.m500  | 0.00         | 0.05          |
| afii.kkg.lvjj.m600  | 0.03         | 0.14          |
| afii.kkg.lvjj.m700  | 0.00         | 0.05          |
| afii.kkg.lvjj.m800  | 0.02         | 0.11          |
| afii.kkg.lvjj.m900  | 0.04         | 0.15          |
| afii.kkg.lvjj.m1000 | 0.00         | 0.28          |
| afii.kkg.lvjj.m1100 | 0.00         | 0.26          |
| afii.kkg.lvjj.m1200 | 0.00         | 0.08          |
| afii.kkg.lvjj.m1300 | 0.00         | 0.12          |
| afii.kkg.lvjj.m1400 | 0.00         | 0.30          |
| afii.kkg.lvjj.m1500 | 0.04         | 0.69          |

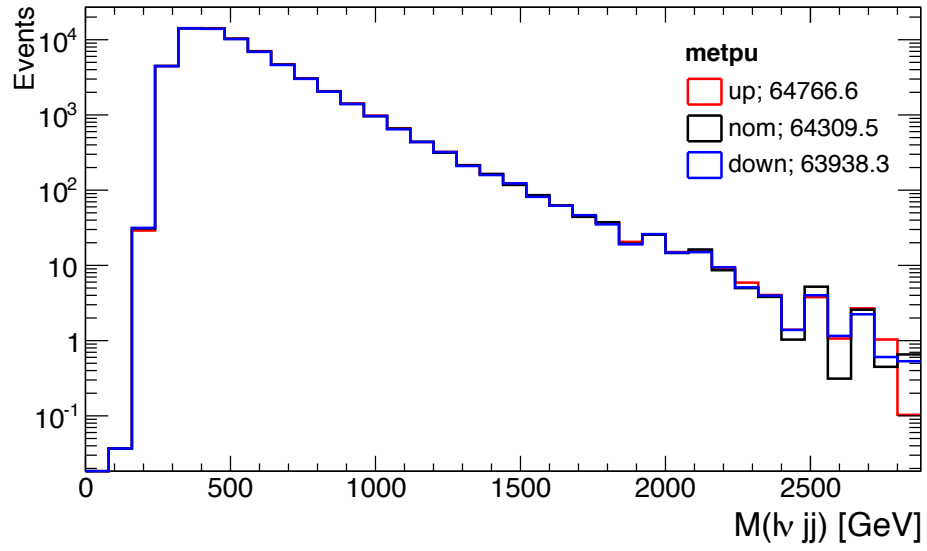
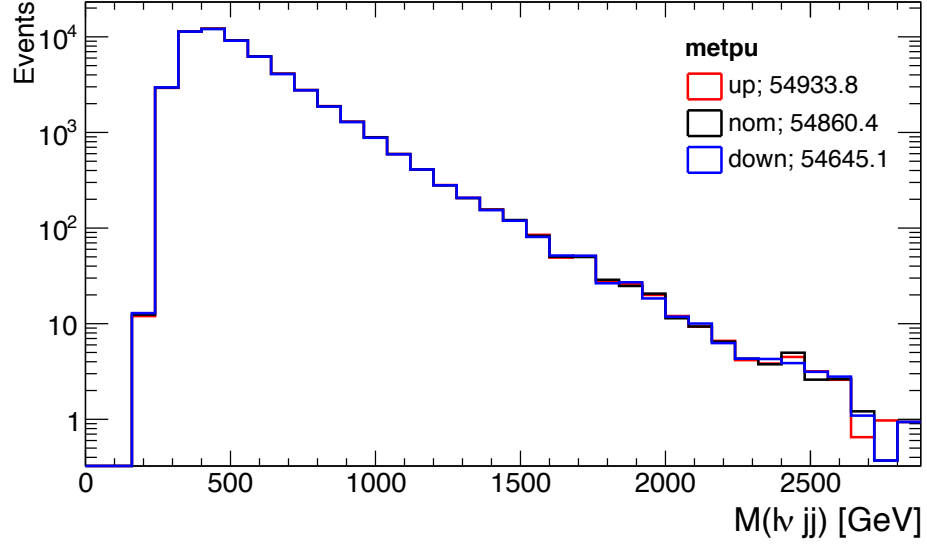


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels

Table 1: V+jets fractional  $\Delta$  acceptance in signal region

| <b>samples</b>      | <b>enujj</b> | <b>munujj</b> |
|---------------------|--------------|---------------|
| herwig.ww           | nan          | nan           |
| herwig.wz           | nan          | nan           |
| herwig.zz           | nan          | nan           |
| herwig.vv           | nan          | nan           |
| mcatnlo.ttbar       | nan          | nan           |
| mcatnlo.top         | nan          | nan           |
| mcatnlo.singletop   | nan          | nan           |
| alpgen.wjets        | nan          | nan           |
| alpgen.zjets        | nan          | nan           |
| qcd.alpgen          | -            | -             |
| rsg.m500.kmpl0_1    | nan          | nan           |
| rsg.m750.kmpl0_1    | nan          | nan           |
| rsg.m1000.kmpl0_1   | nan          | nan           |
| rsg.m1250.kmpl0_1   | nan          | nan           |
| rsg.m1500.kmpl0_1   | nan          | nan           |
| wprime.wz.m500      | nan          | nan           |
| wprime.wz.m600      | nan          | nan           |
| wprime.wz.m700      | nan          | nan           |
| wprime.wz.m800      | nan          | nan           |
| wprime.wz.m900      | nan          | nan           |
| wprime.wz.m1000     | nan          | nan           |
| wprime.wz.m1100     | nan          | nan           |
| wprime.wz.m1200     | nan          | nan           |
| wprime.wz.m1300     | nan          | nan           |
| wprime.wz.m1400     | nan          | nan           |
| wprime.wz.m1500     | nan          | nan           |
| afii.kkg.lvjj.m500  | nan          | nan           |
| afii.kkg.lvjj.m600  | nan          | nan           |
| afii.kkg.lvjj.m700  | nan          | nan           |
| afii.kkg.lvjj.m800  | nan          | nan           |
| afii.kkg.lvjj.m900  | nan          | nan           |
| afii.kkg.lvjj.m1000 | nan          | nan           |
| afii.kkg.lvjj.m1100 | nan          | nan           |
| afii.kkg.lvjj.m1200 | nan          | nan           |
| afii.kkg.lvjj.m1300 | nan          | nan           |
| afii.kkg.lvjj.m1400 | nan          | nan           |
| afii.kkg.lvjj.m1500 | nan          | nan           |



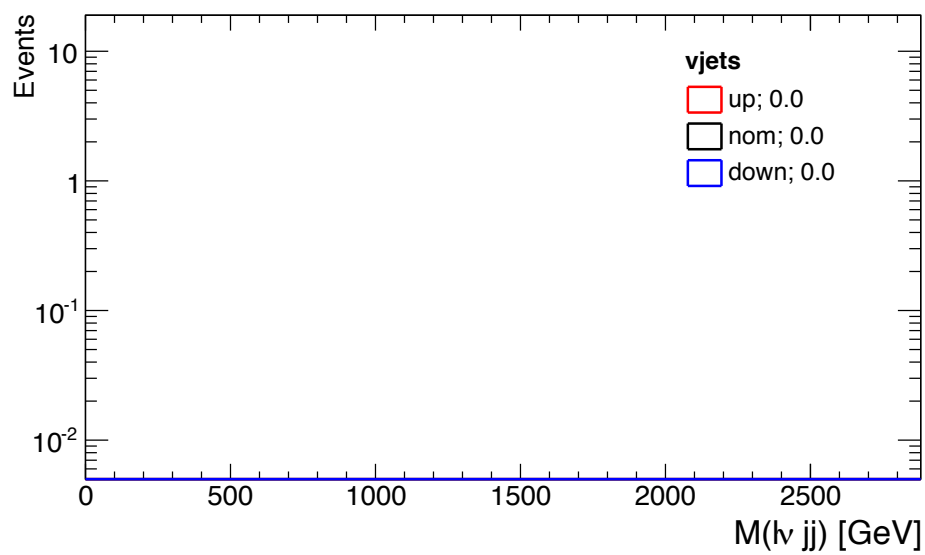
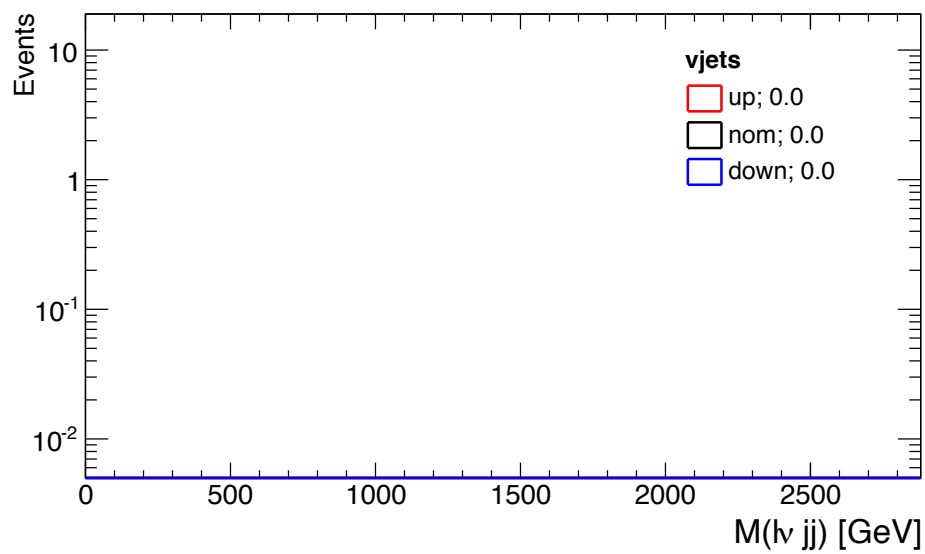


Figure 1: Transverse mass of the system for electron (top) and muon (bottom) channels