| Region CON_UNM ($\not\!\!E_T < 10$, $M_{\mu\mu} > 10.5$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $14820 \pm 50^{+2182}_{-2090}$ | $0.28 \pm 0.2^{+0.07}_{-0.06}$ |
| HF | $11769 \pm 155^{+1299}_{-1299}$ | $7.9 \pm 3.9^{+0.9}_{-0.9}$ |
| FAKES | $4.8 \pm 0.1^{+2.4}_{-2.4}$ | $7.62 \pm 0.04^{+3.81}_{-3.81}$ |
| ZZ | $0.67 \pm 0.03^{+0.09}_{-0.09}$ | $0.13 \pm 0.01^{+0.02}_{-0.02}$ |
| WZ | $0.026 \pm 0.001^{+0.004}_{-0.004}$ | $0.0029 \pm 0.0005^{+0.0005}_{-0.0005}$ |
| TT | $0.12 \pm 0.03^{+0.01}_{-0.01}$ | |
| WB | $0.012 \pm 0.012^{+0.001}_{-0.001}$ | |
| WW | $0.33 \pm 0.08^{+0.05}_{-0.05}$ | |
| DYg | | $0.12 \pm 0.08^{+0.02}_{-0.02}$ |
| **Total BKG** | $26595 \pm 163^{+1479}_{-1405}$ | $16 \pm 4^{+4}_{-4}$ |
| **SIG1**×1000 | $406 \pm 37^{+62}_{-60}$ | $24 \pm 9^{+4}_{-4}$ |
| **SIG2**×1000 | $874 \pm 69^{+139}_{-134}$ | $75 \pm 20^{+16}_{-14}$ |
| **DATA** | 26295 | 16 |

| **Region CON_E ($\not\!\!E_T > 15$, $76 < M_{\mu\mu} < 106$, $N_j \leq 1$)** | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $217 \pm 5^{+22}_{-22}$ | |
| FAKES | $0.15 \pm 0.04^{+0.07}_{-0.07}$ | $0.193 \pm 0.007^{+0.097}_{-0.097}$ |
| ZZ | $0.27 \pm 0.02^{+0.03}_{-0.03}$ | $0.056 \pm 0.009^{+0.008}_{-0.008}$ |
| WZ | $0.209 \pm 0.004^{+0.024}_{-0.024}$ | $0.037 \pm 0.002^{+0.005}_{-0.005}$ |
| TT | $0.27 \pm 0.04^{+0.03}_{-0.02}$ | |
| WW | $1.2 \pm 0.2^{+0.1}_{-0.1}$ | |
| **Total BKG** | $219 \pm 5^{+22}_{-22}$ | $0.29 \pm 0.01^{+0.1}_{-0.1}$ |
| **SIG1**$\times 1000$ | $165 \pm 24^{+19}_{-19}$ | $57 \pm 14^{+9}_{-9}$ |
| **SIG2**$\times 1000$ | $516 \pm 54^{+59}_{-58}$ | $102 \pm 24^{+18}_{-17}$ |
| **DATA** | 253 | 0 |

| **Region CON_F** ($\not{E}_T > 15$, $76 < M_{\mu\mu} < 106$, $N_j \geq 2$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $22 \pm 2^{+2}_{-2}$ | |
| FAKES | $0.017 \pm 0.012^{+0.009}_{-0.009}$ | $0.022 \pm 0.002^{+0.011}_{-0.011}$ |
| ZZ | $0.026 \pm 0.006^{+0.003}_{-0.004}$ | $0.0024 \pm 0.0017^{+0.0004}_{-0.0004}$ |
| WZ | $0.0035 \pm 0.0005^{+0.0004}_{-0.0004}$ | $0.00039 \pm 0.00017^{+6e-05}_{-5e-05}$ |
| TT | $0.87 \pm 0.07^{+0.08}_{-0.08}$ | |
| WW | $0.024 \pm 0.024^{+0.024}_{-0.003}$ | |
| **Total BKG** | $23 \pm 2^{+2}_{-2}$ | $0.024 \pm 0.003^{+0.011}_{-0.011}$ |
| **SIG1**×1000 | $0 \pm 0^{+0}_{-0}$ | $0 \pm 0^{+0}_{-0}$ |
| **SIG2**×1000 | $23 \pm 11^{+3}_{-6}$ | $17 \pm 10^{+3}_{-6}$ |
| **DATA** | 28 | 0 |

| **Region CON_G** ($\not\!\!E_T < 10$, $15 < M_{\mu\mu} < 76$ or $M_{\mu\mu} > 106$, $N_j \leq 1$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $5770 \pm 30^{+1037}_{-981}$ | $0.16 \pm 0.16^{+0.05}_{-0.04}$ |
| HF | $2785 \pm 76^{+441}_{-441}$ | $3.5 \pm 2.5^{+0.6}_{-0.6}$ |
| FAKES | $1.62 \pm 0.06^{+0.81}_{-0.81}$ | $2.27 \pm 0.02^{+1.13}_{-1.13}$ |
| ZZ | $0.24 \pm 0.02^{+0.04}_{-0.04}$ | $0.042 \pm 0.007^{+0.008}_{-0.008}$ |
| WZ | $0.015 \pm 0.001^{+0.002}_{-0.002}$ | $0.0013 \pm 0.0003^{+0.0002}_{-0.0002}$ |
| TT | $0.021 \pm 0.011^{+0.002}_{-0.006}$ | |
| WW | $0.24 \pm 0.07^{+0.04}_{-0.03}$ | |
| DYg | | $0.05 \pm 0.05^{+0.01}_{-0.01}$ |
| **Total BKG** | $8557 \pm 82^{+873}_{-822}$ | $6 \pm 2^{+1}_{-1}$ |
| **SIG1**×1000 | $342 \pm 34^{+53}_{-51}$ | $20 \pm 8^{+4}_{-4}$ |
| **SIG2**×1000 | $707 \pm 62^{+114}_{-110}$ | $63 \pm 18^{+14}_{-12}$ |
| **DATA** | 8205 | 8 |

| **Region CON_H ($\not{E}_T < 10$, $15 < M_{\mu\mu} < 76$ or $M_{\mu\mu} > 106$, $N_j \geq 2$)** | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $19 \pm 2^{+3}_{-3}$ | |
| HF | $9 \pm 5^{+9}_{-9}$ | |
| FAKES | $0.059 \pm 0.008^{+0.03}_{-0.03}$ | $0.042 \pm 0.003^{+0.021}_{-0.021}$ |
| ZZ | $0.0073 \pm 0.003^{+0.0009}_{-0.0015}$ | $0.0012 \pm 0.0012^{+0.0002}_{-0.0002}$ |
| WZ | 7e-05 $\pm 7e-05^{+1e-05}_{-1e-05}$ | |
| TT | $0.088 \pm 0.022^{+0.012}_{-0.008}$ | |
| WB | $0.012 \pm 0.012^{+0.001}_{-0.001}$ | |
| WW | $0.023 \pm 0.023^{+0.004}_{-0.004}$ | |
| **Total BKG** | $29 \pm 5^{+9}_{-9}$ | $0.043 \pm 0.003^{+0.021}_{-0.021}$ |
| **SIG1**$\times 1000$ | $41 \pm 12^{+6}_{-6}$ | $0 \pm 0^{+0}_{-0}$ |
| **SIG2**$\times 1000$ | $40 \pm 15^{+8}_{-6}$ | $0 \pm 0^{+0}_{-0}$ |
| **DATA** | 50 | 0 |

| **Region CON_I** ($\not\!\!E_T < 10$, $76 < M_{\mu\mu} < 106$, $N_j \leq 1$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $5266 \pm 25^{+529}_{-525}$ | $0.12 \pm 0.12^{+0.02}_{-0.02}$ |
| FAKES | $0.54 \pm 0.07^{+0.27}_{-0.27}$ | $1.74 \pm 0.02^{+0.87}_{-0.87}$ |
| ZZ | $0.33 \pm 0.02^{+0.04}_{-0.04}$ | $0.08 \pm 0.01^{+0.01}_{-0.01}$ |
| WZ | $0.008 \pm 0.0008^{+0.0009}_{-0.0009}$ | $0.0013 \pm 0.0003^{+0.0002}_{-0.0002}$ |
| TT | $0.0059 \pm 0.0059^{+0.0005}_{-0.0005}$ | |
| WW | $0.068 \pm 0.039^{+0.008}_{-0.008}$ | |
| DYg | | $0.061 \pm 0.061^{+0.009}_{-0.009}$ |
| **Total BKG** | $5267 \pm 25^{+529}_{-525}$ | $2 \pm 0.1^{+0.9}_{-0.9}$ |
| **SIG1**×1000 | $10 \pm 6^{+1}_{-1}$ | $3.4 \pm 3.4^{+0.5}_{-0.4}$ |
| **SIG2**×1000 | $40 \pm 15^{+4}_{-4}$ | $11 \pm 8^{+2}_{-2}$ |
| **DATA** | 5185 | 2 |

| **Region CON_J** ($\not\!\!E_T < 10$, $76 < M_{\mu\mu} < 106$, $N_j \geq 2$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $69 \pm 3^{+8}_{-7}$ | |
| FAKES | $0.04 \pm 0.01^{+0.02}_{-0.02}$ | $0.051 \pm 0.003^{+0.025}_{-0.025}$ |
| ZZ | $0.0075 \pm 0.0031^{+0.0016}_{-0.0009}$ | |
| TT | $0.0057 \pm 0.0057^{+0.0005}_{-0.0005}$ | |
| **Total BKG** | $69 \pm 3^{+8}_{-7}$ | $0.051 \pm 0.003^{+0.025}_{-0.025}$ |
| **SIG1**×1000 | $0 \pm 0^{+0}_{-0}$ | $0 \pm 0^{+0}_{-0}$ |
| **SIG2**×1000 | $0 \pm 0^{+0}_{-0}$ | $0 \pm 0^{+0}_{-0}$ |
| **DATA** | 71 | 1 |

| Region SIG_A ($\not\!\!E_T > 15$, $15 < M_{\mu\mu} < 76$ or $M_{\mu\mu} > 106$, $N_j \leq 1$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $169 \pm 5^{+26}_{-25}$ | |
| HF | $115 \pm 15^{+33}_{-33}$ | $0.08 \pm 0.04^{+0.02}_{-0.02}$ |
| FAKES | $0.19 \pm 0.02^{+0.1}_{-0.1}$ | $0.199 \pm 0.007^{+0.099}_{-0.099}$ |
| ZZ | $0.45 \pm 0.02^{+0.06}_{-0.06}$ | $0.064 \pm 0.009^{+0.01}_{-0.009}$ |
| WZ | $0.231 \pm 0.004^{+0.032}_{-0.031}$ | $0.028 \pm 0.001^{+0.005}_{-0.005}$ |
| TT | $0.96 \pm 0.07^{+0.09}_{-0.09}$ | |
| WC | $0.3 \pm 0.06^{+0.04}_{-0.04}$ | |
| WP | $6.9 \pm 4^{+1}_{-0.9}$ | |
| WB | $0.63 \pm 0.08^{+0.09}_{-0.08}$ | |
| WW | $5.8 \pm 0.4^{+0.7}_{-0.7}$ | |
| DYg | | $0.06 \pm 0.06^{+0.01}_{-0.01}$ |
| **Total BKG** | $300 \pm 16^{+35}_{-35}$ | $0.42 \pm 0.07^{+0.1}_{-0.1}$ |
| **SIG1**×1000 | $5285 \pm 134^{+756}_{-740}$ | $574 \pm 44^{+102}_{-98}$ |
| **SIG2**×1000 | $16848 \pm 302^{+2515}_{-2457}$ | $1705 \pm 96^{+319}_{-305}$ |
| **DATA** | 297 | 1 |

| Region SIG_A2($\not\!\!E_T > 15$, $15 < M_{\mu\mu} < 76$ or $M_{\mu\mu} > 106$, $N_j \geq 2$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $7.8 \pm 0.9^{+1}_{-1.3}$ | |
| HF | $11 \pm 5^{+3}_{-3}$ | |
| FAKES | $0.03 \pm 0.01^{+0.02}_{-0.02}$ | $0.019 \pm 0.002^{+0.01}_{-0.01}$ |
| ZZ | $0.023 \pm 0.005^{+0.004}_{-0.003}$ | $0.0026 \pm 0.0018^{+0.0004}_{-0.0004}$ |
| WZ | $0.003 \pm 0.0005^{+0.0004}_{-0.0004}$ | $0.00023 \pm 0.00013^{+4e-05}_{-4e-05}$ |
| TT | $4.1 \pm 0.1^{+0.4}_{-0.4}$ | $0.011 \pm 0.008^{+0.001}_{-0.001}$ |
| WC | $0.012 \pm 0.012^{+0.002}_{-0.002}$ | |
| WB | $0.043 \pm 0.021^{+0.006}_{-0.006}$ | |
| WW | $0.18 \pm 0.07^{+0.05}_{-0.02}$ | |
| **Total BKG** | $24 \pm 5^{+3}_{-3}$ | $0.033 \pm 0.008^{+0.01}_{-0.01}$ |
| **SIG1**$\times 1000$ | $735 \pm 50^{+105}_{-102}$ | $7 \pm 5^{+1}_{-1}$ |
| **SIG2**$\times 1000$ | $1812 \pm 99^{+273}_{-269}$ | $39 \pm 15^{+7}_{-12}$ |
| **DATA** | 23 | 0 |

| **Region SIG_UNM ($\not\!\!E_T > 20$, $10.5 < M_{\mu\mu} < 76$ or $M_{\mu\mu} > 106$)** | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $63 \pm 3^{+9}_{-9}$ | |
| HF | $65 \pm 11^{+25}_{-25}$ | $0.04 \pm 0.02^{+0.02}_{-0.02}$ |
| FAKES | $0.17 \pm 0.02^{+0.08}_{-0.08}$ | $0.127 \pm 0.006^{+0.063}_{-0.063}$ |
| ZZ | $0.45 \pm 0.02^{+0.06}_{-0.06}$ | $0.062 \pm 0.009^{+0.01}_{-0.009}$ |
| WZ | $0.258 \pm 0.004^{+0.037}_{-0.036}$ | $0.032 \pm 0.002^{+0.006}_{-0.006}$ |
| TT | $5.1 \pm 0.2^{+0.5}_{-0.5}$ | $0.017 \pm 0.01^{+0.002}_{-0.002}$ |
| WC | $0.31 \pm 0.06^{+0.04}_{-0.04}$ | |
| WP | $9 \pm 5^{+1}_{-1}$ | |
| WB | $0.7 \pm 0.09^{+0.1}_{-0.09}$ | |
| WW | $5.8 \pm 0.4^{+0.7}_{-0.7}$ | |
| DYg | | $0.06 \pm 0.06^{+0.01}_{-0.01}$ |
| **Total BKG** | $150 \pm 13^{+25}_{-25}$ | $0.34 \pm 0.06^{+0.07}_{-0.07}$ |
| **SIG1**×1000 | $5857 \pm 141^{+837}_{-820}$ | $547 \pm 43^{+97}_{-93}$ |
| **SIG2**×1000 | $20041 \pm 329^{+2993}_{-2926}$ | $1791 \pm 99^{+335}_{-321}$ |
| **DATA** | 174 | 1 |

| Region CON_Z (unlike sign, $76 < M_{\mu\mu} < 106$) | | |
|---|---|---|
| Process | Dileptons | Trileptons |
| DY | $6419 \pm 28^{+646}_{-641}$ | $0.23 \pm 0.17^{+0.03}_{-0.03}$ |
| FAKES | $0.89 \pm 0.09^{+0.44}_{-0.44}$ | $2.48 \pm 0.03^{+1.24}_{-1.24}$ |
| ZZ | $0.74 \pm 0.03^{+0.08}_{-0.08}$ | $0.16 \pm 0.01^{+0.02}_{-0.02}$ |
| WZ | $0.214 \pm 0.004^{+0.024}_{-0.024}$ | $0.039 \pm 0.002^{+0.006}_{-0.006}$ |
| TT | $1.18 \pm 0.08^{+0.11}_{-0.1}$ | |
| WW | $1.5 \pm 0.2^{+0.2}_{-0.2}$ | |
| DYg | | $0.061 \pm 0.061^{+0.009}_{-0.009}$ |
| **Total BKG** | $6423 \pm 28^{+646}_{-641}$ | $3 \pm 0.2^{+1.2}_{-1.2}$ |
| **SIG1**×1000 | $93 \pm 18^{+11}_{-10}$ | $36 \pm 11^{+6}_{-6}$ |
| **SIG2**×1000 | $302 \pm 41^{+34}_{-34}$ | $56 \pm 18^{+9}_{-9}$ |
| **DATA** | 6347 | 4 |