Benchmark Mass Spectrum

\[ M(\text{gluino}) = 649.78 \text{ GeV} \]
\[ M(\text{squarkL}) = 650.52 \text{ GeV} \]
\[ M(\text{sbottom1}) = 520.46 \text{ GeV} \]
\[ M(\text{stop1}) = 338.55 \text{ GeV} \]
\[ M(\text{neutralino2}) = 338.21 \text{ GeV} \]
\[ M(\text{stau1}) = 315.08 \text{ GeV} \]
\[ M(\text{neutralino1}) = 286.21 \text{ GeV} \]
\[ \text{Total cross section} = 24760 \text{ fb} \]
\[ \alpha = 4.5 \]
\[ \tan\beta = 30. \]
\[ m_{3/2} = 14000. \text{ GeV} \]
\[ n_M = 0. \]
\[ n_H = 0.5 \]
\[ \text{luminosity} = 400 \text{ fb}^{-1} \]
bW-end vs M(gluino)

40 GeV / Bin

20 GeV / Bin

30 GeV / Bin
1 previous event

17D12: $m_{\text{Stop1}} = 326.96\,\text{GeV}$

2 previous events

3 previous event

$W: 1\,\text{GeV} / \text{Bin}$

4 previous events
1 previous event 17D12: mStop1 = 326.96 GeV 2 previous events

3 previous event b+W: 40 GeV / Bin 4 previous events
17D12: $m_{\text{Stop1}} = 326.96$ GeV

1 previous event

$M_{bW}$, same-event

$M_{bW}$, bi-event

$M_{bW}$, subtracted

End = $361.4 \pm 2.1$ GeV

2 previous events

$M_{bW}$, same-event

$M_{bW}$, bi-event

$M_{bW}$, subtracted

End = $332.6 \pm 2.1$ GeV

3 previous event

$M_{bW}$, same-event

$M_{bW}$, bi-event

$M_{bW}$, subtracted

End = $329.8 \pm 1.7$ GeV

4 previous events

$M_{bW}$, same-event

$M_{bW}$, bi-event

$M_{bW}$, subtracted

End = $330.5 \pm 1.8$ GeV

b+W: 30 GeV / Bin
17D12: mStop1 = 326.96 GeV

3 previous event

4 previous events

b+W: 20 GeV / Bin

Counts / 20 GeV

Motor: bW, same-event

Motor: bW, bi-event

Motor: bW, subtracted

Counts / 20 GeV

Motor: bW, same-event

Motor: bW, bi-event

Motor: bW, subtracted

End = 336.3 ± 1.1 GeV

End = 340 ± 3.7 GeV

End = 337.5 ± 3.2 GeV

End = 338.1 ± 3.3 GeV
1 previous event

b+W: 10 GeV / Bin

2 previous events

4 previous events

3 previous event

17D12: mStop1 = 326.96 GeV
17D24: $m_{\text{Stop1}} = 314.99$ GeV
1 previous event

$M_{bW, \text{same-event}}$

$M_{bW, \text{bi-event}}$

$M_{bW, \text{subtracted}}$

End = 312.9 ± 1.1 GeV

2 previous events

$M_{bW, \text{same-event}}$

$M_{bW, \text{bi-event}}$

$M_{bW, \text{subtracted}}$

End = 309.5 ± 0.85 GeV

3 previous event

$M_{bW, \text{same-event}}$

$M_{bW, \text{bi-event}}$

$M_{bW, \text{subtracted}}$

End = 313 ± 1.2 GeV

4 previous events

$M_{bW, \text{same-event}}$

$M_{bW, \text{bi-event}}$

$M_{bW, \text{subtracted}}$

End = 312.7 ± 1.2 GeV

17D24: $m_{\text{Stop1}} = 314.99$ GeV

b+W: $40$ GeV / Bin
17D24: mStop1 = 314.99 GeV

End = 306.7 ± 0.61 GeV

End = 321.9 ± 4.7 GeV

b+W: 30 GeV / Bin

End = 317.2 ± 0.42 GeV

End = 319.1 ± 0.64 GeV
17D24: $m_{\text{Stop1}} = 314.99$ GeV

Counts / 20 GeV

End = 313.5 ± 0.59 GeV

3 previous event

b+W: 20 GeV / Bin

End = 320.1 ± 1.7 GeV

4 previous events

End = 318.6 ± 1.9 GeV
1 previous event

17D24: $m_{\text{Stop1}} = 314.99$ GeV

2 previous events

3 previous event

$b+W$: 10 GeV / Bin

4 previous events
17D24: \( m_{\text{Stop1}} = 314.99 \text{ GeV} \)

**Figure:**

5 previous events

**Graph 1:**
- **Counts / 40 GeV**
- **End = 315.4 \pm 1.4 \text{ GeV}**

**Graph 2:**
- **Counts / 30 GeV**
- **End = 320.4 \pm 0.75 \text{ GeV}**

**Graph 3:**
- **Counts / 20 GeV**
- **End = 322.4 \pm 2.1 \text{ GeV}**

**Graph 4:**
- **Counts / 10 GeV**
- **End = \text{Varies} \text{ GeV}**