Table 4: Expected cut and count signal region yields, for an integrated luminosity of 3000 fb$^{-1}$. The errors shown are the statistical uncertainties. Entries marked – indicate a negligible background contribution. The contribution listed as “Other SM” includes $W$+jets, $Z/\gamma^*+$jets, diboson and Higgs boson production.

<table>
<thead>
<tr>
<th>SRC</th>
<th>SRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected events</td>
<td>$30 \pm 6$</td>
</tr>
<tr>
<td>$t\bar{t}$ events</td>
<td>$18 \pm 5$</td>
</tr>
<tr>
<td>single top events</td>
<td>$5.4 \pm 2.7$</td>
</tr>
<tr>
<td>$t\bar{t} + V$ events</td>
<td>$3.8 \pm 1.5$</td>
</tr>
<tr>
<td>Other SM events</td>
<td>$2.8 \pm 2.2$</td>
</tr>
</tbody>
</table>

$m(\tilde{\chi}^0_2, \tilde{\chi}^{\pm}_1) = 600 \text{ GeV}, m(\tilde{\chi}^0_1) = 0 \text{ GeV}$ events | $83.7 \pm 3.3$ | $51 \pm 4$ |
$m(\tilde{\chi}^0_2, \tilde{\chi}^{\pm}_1) = 500 \text{ GeV}, m(\tilde{\chi}^0_1) = 300 \text{ GeV}$ events | $2.1 \pm 0.9$ | $0.8 \pm 0.6$ |
$m(\tilde{\chi}^0_2, \tilde{\chi}^{\pm}_1) = 1000 \text{ GeV}, m(\tilde{\chi}^0_1) = 0 \text{ GeV}$ events | $20.0 \pm 0.8$ | $16.8 \pm 0.7$ |

Figure 8: Expected sensitivity contours for the 300 fb$^{-1}$ and 3000 fb$^{-1}$ luminosity scenarios in the $m(\tilde{\chi}^0_1)$ vs $m(\tilde{\chi}^{\pm}_1, \tilde{\chi}^0_2)$ plane for the $W$h-mediated simplified model, using the cut and count approach. The 5$\sigma$ discovery contour is shown only for the the 3000 fb$^{-1}$ scenario, while a 3 $\sigma$ observation contour is shown for the 300 fb$^{-1}$ scenario, where no 5 $\sigma$ reach is expected. The degradation of the discovery sensitivity observed for values of $m(\tilde{\chi}^{\pm}_1, \tilde{\chi}^0_2)$ close to 400 GeV is due to the increased pile up effects and could be recovered with a dedicated optimisation in case of an early observation. 95% CL exclusion contours are shown for both scenarios.

mass for a massless $\tilde{\chi}^0_1$. The discovery contour is also extended, reaching 950 GeV in $\tilde{\chi}^{\pm}_1, \tilde{\chi}^0_2$ mass for a massless $\tilde{\chi}^0_1$. 