## Report on the 8 TeV SUSY Simplified Model Results

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January 9, 2019

## Summary of Upper Limits and Efficiency Maps Results

The following table summarises all the available Simplified Model Results (SMS) made public by the ATLAS and CMS Collaborations, through their respective wiki pages or on the hep-data website, at 8 TeV centre-of-mass energy.

|                |  |  |   | UL     |       |       |                           |    | EM Exclusion Lines |        |                  |        |                |   |
|----------------|--|--|---|--------|-------|-------|---------------------------|----|--------------------|--------|------------------|--------|----------------|---|
|                |  |  | Simplified Model  | Obs    | Obs±σ | Exp   | $\mathbf{Exp} \pm \sigma$ |    | Obs                | s Obs: | $\pm \sigma$ Exp | Exp±o  | Comn           | nent                                    |
| CMS-SUS-12-028 | $pp \rightarrow$                                       | $\tilde{g}\tilde{g}, \tilde{g} \to qq\tilde{\chi}_1^0$                       |   | Yes    | No    | Yes   | Yes                       |    | No                 | Yes    | Yes              | Yes    | Yes            | EM given only for the sum in HT bin     |
|                | $pp \rightarrow$                                       | $\tilde{q}\tilde{q}, \tilde{q} \rightarrow q\tilde{\chi}_1^0$                |   | Yes    | No    | Yes   | Yes                       |    | No                 | Yes    | Yes              | Yes    | Yes            | while the results are given in terms of |
|                | $pp 	o 	ilde{t}	ilde{t}, 	ilde{t} 	o t	ilde{\chi}^0_1$ |  | Yes   | No     | Yes   | Yes   |                           | No | Yes Yes            |        | Yes              | Yes    | individual bin |   |
|                | $pp \rightarrow$                                       | $pp 	o 	ilde{b} 	ilde{b}, 	ilde{b} 	o b 	ilde{\chi}_1^0$                     |   | Yes    | No    | Yes   | Yes                       |    | No                 | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g}\to tt\tilde{\chi}^0_1$                         |   | Yes    | No    | Yes   | Yes                       |    | No                 | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       | $pp 	o 	ilde{g}	ilde{g}, 	ilde{g} 	o bb	ilde{\chi}^0_1$                      |   |        | No    | Yes   | Yes                       |    | No                 | Yes    | Yes              | Yes    | Yes            |   |
| CMS-SUS-14-021 |  | $\tilde{t}\tilde{t}, \tilde{t} \rightarrow bff\tilde{\chi}_1^0$              |   | Yes    | No    | Yes   | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       | $\tilde{\chi}_1^{\pm}\tilde{\chi}_2^0, \tilde{\chi}_1^{\pm} \rightarrow$     | $\tilde{l}\nu_l/\tilde{\nu}_l l, \tilde{\chi}_2^0 \to \tilde{l}l/\tilde{\nu}_l \nu_l$ | No     | No    | No    | No                        |    | No                 | No     | No               | No     | No             |   |
| CMS-SUS-13-013 | $pp \rightarrow$                                       | $\tilde{g}\tilde{g}, \tilde{g} \to tt\tilde{\chi}_1^0$                       |   | Yes    | No    | Yes   | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g} ightarrow\tilde{t}t,\tilde{t}$                 | $\rightarrow t \tilde{\chi}_1^0$  | No(1)  | No    | No(1) | No                        |    | No(1)              | No(1)  | No(1)            | No(1)  | No(1)          |   |
|                | $pp \rightarrow$                                       | $\tilde{b}\tilde{b}, \tilde{b} \to \tilde{\chi}_1^{\pm}t,$                   | $\tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$                                   | No(2)  | No    | No(2) | No                        |    | No                 | No(2)  | No(2)            | No(2)  | No(2)          | EM provided only for some SR            |
|                | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g}\rightarrow\tilde{b}b,\tilde{b}$                | $\to t \tilde{\chi}_1^{\pm}, \tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0$             | No(1)  | No    | No(1) | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          |   |
|                | $pp \rightarrow$                                       | $\tilde{g}\tilde{g}, \tilde{g} \rightarrow \tilde{\chi}_1^{\pm}q$            | $q, \tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0$                                      | No(1)  | No    | No(1) | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          | EM provided only for some SR            |
| CMS-SUS-13-011 | $pp \rightarrow$                                       | $\tilde{t}\tilde{t},\tilde{t}\to t\tilde{\chi}^0_1$                          |   | Yes    | No    | No    | No                        |    | Yes                | Yes    | No               | Yes    | No             |   |
|                | $pp \rightarrow$                                       | $\tilde{t}\tilde{t}, \tilde{t} \rightarrow \tilde{\chi}_1^{\pm}b, \tilde{t}$ | $\tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$                                   | Yes(3) | No    | No    | No                        |    | No(2)              | Yes(3) | No               | Yes(3) | No             |   |
| CMS-SUS-13-007 | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g}\to tt\tilde{\chi}^0_1$                         |   | Yes    | No    | No    | No                        |    | Yes                | No     | No               | No     | No             | No exclusion lines data                 |
|                | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g} ightarrow\tilde{t}t,\tilde{t}$                 | $\rightarrow t \tilde{\chi}_1^0$  | No(2)  | No    | No    | No                        |    | No(2)              | No     | No               | No     | No             | No exclusion lines data                 |
| CMS-SUS-13-012 | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g}\to qq\tilde{\chi}_1^0$                         | <b>)</b>  | Yes    | No    | Yes   | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       | $\tilde{q}\tilde{q},\tilde{q}\to q\tilde{\chi}_1^0$                          |   | Yes    | No    | Yes   | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            |   |
|                |  | $\tilde{g}\tilde{g},\tilde{g}\to tt\tilde{\chi}_1^0$                         |   | Yes    | No    | Yes   | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            |   |
|                |  | $\tilde{g}\tilde{g}, \tilde{g} \to \tilde{\chi}_1^{\pm} q$                   | $q, \to \tilde{\chi}_1 V \tilde{\chi}_1^0$  | No(1)  | No    | No(1) | No                        |    | Yes                | NO(1)  | No(1)            | No(1)  | No(1)          |   |
| CMS-SUS-13-002 |  | $\tilde{g}\tilde{g},\tilde{g}\to tt\tilde{\chi}_1^0$                         |   | Yes    | No    | No    | No                        |    | No                 | Yes    | Yes              | Yes    | Yes            |   |
|                | $pp \rightarrow$                                       |  | $\tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$                                   | No(1)  | No    | No    | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          |   |
| CMS-SUS-13-024 | $pp \rightarrow$                                       | $\tilde{t_2}\tilde{t_2},\tilde{t_2} \rightarrow \tilde{t_1}$                 | $H, \tilde{t_1} \rightarrow t \tilde{\chi}^0_1$                                       | No(1)  | No    | No(1) | No                        |    | No(1)              | No(1)  | No(1)            | No(1)  | No(1)          |   |
|                | $pp \rightarrow$                                       | $\tilde{t_2}\tilde{t_2},\tilde{t_2} \rightarrow \tilde{t_1}$                 | $Z, \tilde{t_1} \to t \tilde{\chi}_1^0$   | No(1)  | No    | No(1) | No                        |    | No(1)              | No(1)  | No(1)            | No(1)  | No(1)          | No UL combination of channels           |
|                |  |  | $Z/H, \tilde{t_1} \rightarrow t \tilde{\chi}_1^0$                                     | No(1)  | No    | No(1) | No                        |    | No(1)              | No(1)  | No(1)            | No(1)  | No(1)          | No UL combination of channels           |
| CMS-SUS-13-006 |  | $\tilde{l}\tilde{l},\tilde{l}\to l\tilde{\chi}_1^0$                          |   | Yes    | No    | No    | No                        |    | No                 | Yes    | Yes              | Yes    | Yes            | No UL combination L+R                   |
|                |  | $\tilde{\chi}_1^{\pm}\tilde{\chi}_2^0, \tilde{\chi}_1^{\pm} \rightarrow$     |   | Yes(3) | No    | No    | No                        |    | No                 | Yes(3) | Yes(3)           | Yes(3) | Yes(3)         | 179 SR defined                          |
|                |  | 1 - 1  | $\tilde{\tau}\nu_{\tau}, \tilde{\chi}_{2}^{0} \to \tilde{l}l$                         | Yes(3) | No    | No    | No                        |    | No                 | Yes(3) | Yes(3)           | Yes(3) | Yes(3)         | 179 SR defined                          |
|                |  | 1 12 11  | $\tilde{\tau}\nu_{\tau}, \tilde{\chi}_{2}^{0} \to \tilde{\tau}\tau$                   | No(1)  | No    | No    | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          | 179 SR defined                          |
|                |  | 1 12 11  | $W\tilde{\chi}_1^0, \tilde{\chi}_2^0 \to H\tilde{\chi}_1^0$                           | Yes    | No    | No    | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            | EM only for the single lepton an.       |
|                |  |  | $W\tilde{\chi}_1^0, \tilde{\chi}_2^0 \to Z\tilde{\chi}_1^0$                           | Yes    | No    | No    | No                        |    | Yes                | Yes    | Yes              | Yes    | Yes            | 179 SR defined                          |
| CMS-SUS-14-002 |  | $\tilde{\chi}_1^0 \tilde{\chi}_1^0, \tilde{\chi}_1^0 \rightarrow i$          |   | Yes    | Yes   | Yes   | Yes                       |    | -                  | -      | -                | -      | -              | $	ilde{G}$ massless                     |
|                |  | $\tilde{\chi}_1^0 \tilde{\chi}_1^0, \tilde{\chi}_1^0 \rightarrow i$          |   | Yes    | Yes   | Yes   | Yes                       |    | -                  | -      | -                | -      | -              | No EM and lines needed                  |
|                |  |  | $W\tilde{\chi}_1^0, \tilde{\chi}_2^0 \to H\tilde{\chi}_1^0$                           | Yes    | No    | Yes   | No                        |    | No                 | No     | No               | No     | No             |   |
| CMS-SUS-14-010 | $pp \rightarrow$                                       | $\tilde{g}\tilde{g},\tilde{g}\to tt\tilde{\chi}_1^0$                         |   | Yes    | No    | Yes   | No                        |    | No                 | Yes    | Yes              | Yes    | Yes            |   |
|                |  | $\tilde{g}\tilde{g},\tilde{g}  ightarrow \tilde{t}t,\tilde{t}$               | . • 1   | No(1)  | No    | No(1) | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          |   |
|                | $pp \rightarrow$                                       | $\tilde{b}\tilde{b}, \tilde{b} \to \tilde{\chi}_1^{\pm}t,$                   | $\tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$                                   | No(1)  | No    | No(1) | No                        |    | No                 | No(1)  | No(1)            | No(1)  | No(1)          |   |

|                     |   |   | UL    |                |       |      |     | EM  | Exclusion Lines |       |     |       |                           |         |   |
|---------------------|---|---|-------|----------------|-------|------|-----|-----|-----------------|-------|-----|-------|---------------------------|---------|---|
|                     | Analysis  | Simplified Model  | Obs   | $Obs\pm\sigma$ | Exp   | Exp± | σ   |     | Obs             | Obs   | s±σ | Exp   | $\mathbf{Exp} \pm \sigma$ | Comment | ; |
| CMS-SUS-13-004 pp   | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow bb\tilde{\chi}_1^0$  |   | Yes   | No             | No    | No   |     | No  |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
| pp                  | $\to \tilde{g}\tilde{g}, \tilde{g} \to tt\tilde{\chi}^0_1$  |   | Yes   | No             | No    | No   |     | No  |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
| pp                  | $\rightarrow \tilde{t}\tilde{t}, \tilde{t} \rightarrow \tilde{\chi}_1^{\pm}b, \tilde{\chi}_2$   | $\tilde{\chi}_1^{\pm} \rightarrow W^{\pm} \tilde{\chi}_1^0$ | Yes   | No             | No    | No   |     | No  |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
| pp                  | $\to \tilde{t}\tilde{t}, \tilde{t} \to t\tilde{\chi}^0_1$   |   | Yes   | No             | No    | No   |     | No  |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
| pp                  | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow tb\tilde{\chi}_1^{\pm}$  | $/tt\tilde{\chi}_{1}^{0}$                                   | No(1) | No             | No    | No   |     | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
| pp                  | $ ightarrow \tilde{g} \tilde{g}, \tilde{g}  ightarrow t b \tilde{\chi}_1^{\pm}$   | $/bb\tilde{\chi}_{1}^{0}$                                   | No(1) | No             | No    | No   |     | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
| pp                  | $\to \tilde{g}\tilde{g}, \tilde{g} \to tb\tilde{\chi}_1^\pm$  |   | No(1) | No             | No    | No   |     | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
| pp                  | $ ightarrow 	ilde{t} 	ilde{t}, 	ilde{t}  ightarrow t 	ilde{\chi}_1^0/b 	ilde{\chi}_1^0$ | $\tilde{\zeta}_1^{\pm}$                                     | No(1) | No             | No    | No   |     | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
| CMS-SUS-14-011 pp   | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow b \ b \ \tilde{\chi}_{0}^{0}$  | )<br>i  | Yes   | No             | Yes   | Yes  | 3   | No  |                 | Yes   | N   | No    | Yes                       | Yes     |   |
|                     | $\to  \tilde{g} \tilde{g},  \tilde{g}  \to  t   t   \tilde{\chi}_1^0$   |   | Yes   | No             | Yes   | Yes  | 5   | No  |                 | Yes   | N   | No    | Yes                       | Yes     |   |
| pp                  | $\to \tilde{t}\tilde{t}, \tilde{t} \to \tilde{\chi}_1^{\pm}b, \hat{\chi}$   | $\tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$         | Yes   | No             | Yes   | Yes  | 3   | No  |                 | Yes   | N   | No    | Yes                       | Yes     |   |
| pp                  | $\rightarrow  \tilde{t}\tilde{t}, \tilde{t} \rightarrow t  \tilde{\chi}_1^0$  |   | Yes   | No             | Yes   | Yes  | 3   | No  |                 | Yes   | N   | No    | Yes                       | Yes     |   |
| pp                  | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow tb\tilde{\chi}_1^{\pm}$  | $/tt\tilde{\chi}_{1}^{0}$                                   | No(1) | No             | No(1) | No   | (1) | No  |                 | No(1) | N   | No    | No(1)                     | No(1)   |   |
| pp                  | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow tb\tilde{\chi}_1^{\pm}$  | $/bb	ilde{\chi}^0_1$  | No(1) | No             | No(1) | No   | (1) | No  |                 | No(1) | N   | No    | No(1)                     | No(1)   |   |
|                     | $\to \tilde{g}\tilde{g}, \tilde{g} \to tb\tilde{\chi}_1^\pm$  |   | No(1) | No             | No(1) | No   | (1) | No  |                 | No(1) | N   | No    | No(1)                     | No(1)   |   |
|                     | $\rightarrow \tilde{t}\tilde{t}, \tilde{t} \rightarrow t\tilde{\chi}_1^0/b\tilde{\chi}_1^0/b\tilde{\chi}_1^0$   | *   | No(1) | No             | No(1) | No   | (1) | No  |                 | No(1) | N   | No    | No(1)                     | No(1)   |   |
| CMS-SUS-14-014 pp   | $\to \tilde{b}\tilde{b}, \tilde{b} \to \tilde{\chi}_2^0 b, \tilde{\chi}$  | $^0_2 	o Z \tilde{\chi}^0_1$                                | No(1) | No(1)          | No(1) | No   | (1) | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
|                     | $\to \tilde{b}\tilde{b}, \tilde{b} \to \tilde{\chi}_2^0 b, \tilde{\chi}$  |   | No(1) | No(1)          | No(1) | No   | (1) | No  |                 | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
| pp                  | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow qq\tilde{\chi}_1^0,$   | $\tilde{\chi}_1^0 \to Z\tilde{G}$                           | Yes   | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |
| CMS-SUS-13-019   pp | $\to \tilde{g}\tilde{g}, \tilde{g} \to qq\tilde{\chi}_1^0$  |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
| pp                  | $\to \tilde{q}\tilde{q}, \tilde{q} \to q\tilde{\chi}_1^0$   |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
|                     | $\to \tilde{t}\tilde{t}, \tilde{t} \to t\tilde{\chi}^0_1$   |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
|                     | $\to \tilde{b}\tilde{b}, \tilde{b} \to b\tilde{\chi}^0_1$   |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
|                     | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow tt\tilde{\chi}_1^0$  |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
|                     | $\to \tilde{g}\tilde{g}, \tilde{g} \to bb\tilde{\chi}^0_1$  |   | Yes   | No             | No    | No   |     | Yes |                 | Yes   | 7   | Yes   | Yes                       | Yes     |   |
|                     | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow qq\tilde{\chi}_{2}^{0}$  | $/qq	ilde{\chi}_1^{\pm}$                                    | No(1) | No             | No    | No   |     | No( | (1)             | No(1) | N   | No(1) | No(1)                     | No(1)   |   |
|                     | $\to \tilde{t}\tilde{t}, \tilde{t} \to t\tilde{\chi}^0_1$   |   | No    | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |
|                     | $\rightarrow \tilde{b}\tilde{b}, \tilde{b} \rightarrow b\tilde{\chi}_1^0$   |   | No    | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |
|                     | $\rightarrow \tilde{t}\tilde{t}, \tilde{t} \rightarrow c\tilde{\chi}_1^0$   |   | No    | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |
|                     | $\rightarrow \tilde{t}\tilde{t}, \tilde{t} \rightarrow \tilde{\chi}_1^{\pm}b, \tilde{\chi}_2^{\pm}$   |   | No    | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |
|                     | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow qq\tilde{\chi}_{1}^{0},$   | -   | No    | No             | No    | No   |     | No  |                 | No    |     | No    | No                        | No      |   |
| pp                  | $\rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow qq\tilde{\chi}_{1}^{0}$  | $/qq\tilde{\chi}_1^{\pm}$                                   | No    | No             | No    | No   |     | No  |                 | No    | N   | No    | No                        | No      |   |

Table 1: Summary table of the CMS collaboration analyses results - upper limits and efficiency maps. The tag 'Yes' means that at least one of the results in the analysis targeting the specified model is provided in digital format. In brackets are the numbers of mass planes provided.

|                    |  |   |  | U                         | L    |                           | EM         |        | Exclusion Lines |                 |        |                            |       |                            |
|--------------------|--|---|--|---------------------------|------|---------------------------|------------|--------|-----------------|-----------------|--------|----------------------------|-------|----------------------------|
|                    | Analysis   | Simplified Model  | Obs                                    | $\mathbf{Obs} \pm \sigma$ | Exp  | $\mathbf{Exp} \pm \sigma$ |            | Ob     | s Obs           | $\pm \sigma$ Ex | p Exp± | Con                        | nment |                            |
| ATLAS-SUSY-2013-04 | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to$   | $tt\tilde{\chi}_1^0$  |  | Yes                       | No   | No                        | No         |        | Yes             | Yes             | No     | Yes                        | No    |                            |
|                    | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to \tilde{\chi}_1^{\pm} qq, \tilde{\chi}_1^{\pm} \to W\tilde{\chi}_1^0$                       |   |  | No(1)                     | No   | No(1                      | No         |        | No(1)           | No(1)           | No     | No(1)                      | No    |                            |
|                    | $pp\rightarrow\tilde{g}\tilde{g},\tilde{g}\rightarrow$   | No  | No                                     | No                        | No   |                           | No         | No     | No              | No              | No     |                            |       |                            |
|                    | $pp\rightarrow\tilde{g}\tilde{g},\tilde{g}\rightarrow$   | $qq\tilde{\chi}_1^{\pm}/\tilde{\chi}_2^0, \tilde{\chi}_1^{\pm}/\tilde{\chi}_2^0 \rightarrow W$                  | $V/Z\tilde{\chi}_1^0$                  | No                        | No   | No                        | No         |        | No              | No              | No     | No                         | No    |                            |
| ATLAS-SUSY-2013-05 | $pp \to \tilde{b}\tilde{b}, \tilde{b} \to$   | $b\tilde{\chi}_1^0$   |  | Yes                       | No   | No                        | No         |        | No              | Yes             | Yes    | Yes                        | Yes   | Only best SR EM            |
|                    | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t$   | Yes   | No                                     | No                        | No   |                           | No         | Yes(4) | Yes(4)          | Yes(4)          | Yes(4) | Only best SR EM            |       |                            |
| ATLAS-SUSY-2013-12 | $pp \to \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_2^0$   | $\tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0, \tilde{\chi}_2^0 \to H \tilde{\chi}_1^0$                          |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No    |                            |
|                    | $pp \to \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_2^0$   | $\tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0, \tilde{\chi}_2^0 \to Z \tilde{\chi}_1^0$                          |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No    |                            |
|                    | $pp \to \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_2^0$   | $\tilde{\chi}_1^{\pm} \rightarrow \tilde{l}\nu_l/\tilde{\nu}_l l, \tilde{\chi}_2^0 \rightarrow \tilde{l}l/$     | $\tilde{\nu}_l \nu_l$                  | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |
|                    | $pp \to \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_2^0$   | $\tilde{\chi}_1^{\pm} \to \tilde{\tau} \nu_{\tau} / \tilde{\nu}_{\tau} \tau, \tilde{\chi}_2^0 \to \tilde{\tau}$ | $\tau/\tilde{\nu}_{\tau}\nu_{\tau}$    | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |
| ATLAS-SUSY-2013-19 | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to 0$   | $bW\tilde{\chi}_1^0$  |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No(-) |                            |
|                    | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t$   | $t	ilde{\chi}^0_1$  |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No(-) | EM for combination of SR   |
|                    | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t$   | $\tilde{\chi}_1^{\pm}b, \tilde{\chi}_1^{\pm} \to W^{\pm}\tilde{\chi}_1^0$                                       |  | Yes(5)                    | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No(-) | EM for combination of SR   |
| ATLAS-SUSY-2013-08 | $pp 	o 	ilde{t_2} 	ilde{t_2}, 	ilde{t_2}$  | $\rightarrow \tilde{t_1}Z, \tilde{t_1} \rightarrow t\tilde{\chi}_1^0$   |  | No(1)                     | No   | No                        | No         |        | No              | Yes             | Yes    | Yes                        | Yes   |                            |
| ATLAS-SUSY-2013-11 | $pp \to \tilde{l}\tilde{l}, \tilde{l} \to l$   | $\tilde{\chi}^0_1$  |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No    | Only best SR EM            |
|                    | $pp \to \tilde{\chi}_1^+ \tilde{\chi}_1^-, \tilde{\chi}_1^{\pm} \to W^{\pm} \tilde{\chi}_1^0$  |   |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No    | Only best SR EM            |
|                    | $pp \to \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0, \tilde{\chi}_2^0 \to Z \tilde{\chi}_1^0$ |   |  | Yes                       | No   | No                        | No         |        | No              | Yes             | No     | Yes                        | No    | Only best SR EM            |
|                    | $pp \rightarrow \tilde{\chi}_1^+ \tilde{\chi}_1^-,$  | $\tilde{\chi}_1^{\pm} \to \tilde{\nu}_l l/\tilde{l} \nu_l, \tilde{\nu}/\tilde{l} \to \nu_l$                     | $/l\tilde{\chi}_0^1$                   | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |
| ATLAS-SUSY-2013-09 | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to$   | $tt\tilde{\chi}_{1}^{0}$  |  | Yes                       | No   | No                        | No         |        | Yes             | Yes             | Yes    | Yes                        | Yes   |                            |
|                    | Only useful re   | esults provided out of 1  | one mass p                             | lane for                  | long | cascade to                | opologies) |        |                 |                 |        |                            |       |                            |
| ATLAS-SUSY-2013-02 | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to$   | $qq\tilde{\chi}_1^0$  |  | Yes                       | No   | No                        | No         |        | Yes             | Yes             | Yes    | Yes                        | Yes   |                            |
|                    | $pp \to \tilde{q}\tilde{q}, \tilde{q} \to$   | $q\tilde{\chi}_1^0$   |  | Yes                       | No   | No                        | No         |        | Yes             | Yes             | Yes    | Yes                        | Yes   |                            |
|                    | $pp  \to  \tilde{g} \tilde{q}, \tilde{g}  \to $  | $qq\tilde{\chi}_1^0, \tilde{q} \rightarrow q\tilde{\chi}_1^0$   |  | Yes                       | No   | No                        | No         |        | No              | Yes             | Yes    | Yes                        | Yes   |                            |
|                    | $pp 	o \tilde{g} \tilde{g}, \tilde{g} 	o \tilde{t}t, \tilde{t} 	o c \tilde{\chi}_1^0$  |   |  | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No(1)  | No(1)                      | No(1) |                            |
|                    | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to \tilde{\chi}_1^{\pm} qq, \tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0$                      |   |  | No(2)                     | No   | No                        | No         |        | No              | No(2)           | No(2)  | No(2)                      | No(2) |                            |
|                    | $pp \to \tilde{q}\tilde{q}, \tilde{q} \to$   | $\tilde{\chi}_1^{\pm} q, \tilde{\chi}_1^{\pm} \rightarrow W \tilde{\chi}_1^0$                                   |  | No(2)                     | No   | No                        | No         |        | No              | No(2)           | No(2)  | No(2)                      | No(2) |                            |
| ATLAS-SUSY-2013-16 | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t$   | $t\tilde{\chi}_1^0$   |  | Yes                       | No   | No                        | No         |        | Yes             | Yes             | No     | Yes                        | No    |                            |
|                    | $pp \rightarrow \tilde{t}\tilde{t}, \tilde{t} \rightarrow \tilde{t}$   | $\tilde{\chi}_1^{\pm}b, \tilde{\chi}_1^{\pm} \to W^{\pm}\tilde{\chi}_1^0$                                       |  | No(1)                     | No   | No                        | No         |        | No(1)           | No(1)           | No     | No(1)                      | No    |                            |
| ATLAS-SUSY-2013-14 | $pp \to \overline{\tilde{\chi}_1^{\pm} \tilde{\chi}_2^0}, \tilde{\chi}_2^0$  | $\tilde{\chi}_1^{\pm} \to \tilde{\tau} \nu_{\tau} / \tilde{\nu}_{\tau} \tau, \tilde{\chi}_2^0 \to \tilde{\tau}$ | $\tau / \tilde{\nu}_{\tau} \nu_{\tau}$ | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    | EM only for some sensitive |
|                    | $pp \to \underline{\tilde{\chi}_1^+ \tilde{\chi}_1^-},$  | $\tilde{\chi}_1^{\pm} \to \tilde{\tau} \tau / \tilde{\nu}_{\tau} \nu_{\tau}$                                    |  | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    | EM only for best SR        |
| ATLAS-SUSY-2013-20 | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to$   |   |  | No                        | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    | EM only for some sensitiv  |
|                    | $pp \to \tilde{g}\tilde{g}, \tilde{g} \to \tilde{\chi}_1^{\pm}qq, \tilde{\chi}_1^{\pm} \to W\tilde{\chi}_1^0$                        |   |  | No(1)                     | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    | EM only for some sensitive |
|                    | $pp\rightarrow\tilde{q}\tilde{q},\tilde{q}\rightarrow$   | No(1)   | No                                     | No                        | No   |                           | No         | No(1)  | No              | No(1)           | No     | EM only for some sensitive |       |                            |
|                    | $pp  \to  \tilde{g}  \tilde{g}  ,  \tilde{g}  \to $  | No  | No                                     | No                        | No   |                           | No         | Yes    | No              | Yes             | No     | EM only for some sensitive |       |                            |
|                    | Other long ca  | scade topologies with n   | o data p                               | rovided                   |      |                           |            |        |                 |                 |        |                            |       |                            |
| ATLAS-SUSY-2013-18 | $pp \to \overline{\tilde{b}\tilde{b}, \tilde{b} \to}$  | $\tilde{\chi}_2^0 b, \tilde{\chi}_2^0 \to h \tilde{\chi}_1^0$   |  | No                        | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |
|                    | $pp\rightarrow\tilde{g}\tilde{g},\tilde{g}\rightarrow$   | $\tilde{b}b,\tilde{b}\to b\tilde{\chi}^0_1$   |  | No                        | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |
|                    | $pp \rightarrow \tilde{g}\tilde{g}, \tilde{g} \rightarrow$   | $\tilde{t}t, \tilde{t} \rightarrow t\tilde{v}^0$  |  | No                        | No   | No                        | No         |        | No              | No(1)           | No     | No(1)                      | No    |                            |

|                    |   |  | UL  |                           |       |                           |      | EM Exclusion Lines |      |       |       |       |        |      |                                   |
|--------------------|---|--|-----|---------------------------|-------|---------------------------|------|--------------------|------|-------|-------|-------|--------|------|-----------------------------------|
|                    | Analysis  | Simplified Model   | Obs | $\mathbf{Obs} \pm \sigma$ | Exp   | $\mathbf{Exp} \pm \sigma$ |      | Ob                 | s Ob | s±σ ] | Exp   | Exp±o | Com    | ment |                                   |
|                    | $pp 	o \tilde{g}\tilde{g}, \tilde{g} 	o$  | $\tilde{\chi}_1^{\pm} bt, \tilde{\chi}_1^{\pm} \to ff \tilde{\chi}_1^0$                |     | No                        | No    | No                        | N    | 0                  | No   | No(1) |       | No    | No(1)  | No   |                                   |
|                    | $pp 	o 	ilde{g}	ilde{g}, 	ilde{g} 	o tt	ilde{\chi}_1^0 \ pp 	o 	ilde{g}	ilde{g}, 	ilde{g} 	o bb	ilde{\chi}_1^0$ |  |     | Yes                       | No No |                           | N    | О                  | Yes  | Yes   | es No |       | Yes    | No   | Only separate 0/1 lepton UL       |
|                    |   |  |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | No    | Yes    | No   |                                   |
| ATLAS-SUSY-2013-15 | $pp  ightarrow 	ilde{t} 	ilde{t}, 	ilde{t}  ightarrow t$  | $t	ilde{\chi}^0_1$   |     | Yes                       | No    | Yes                       | N    | lo                 | Yes  | Yes   |       | No    | Yes    | No   | EM for 3 SR out of 4              |
|                    | $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t$  | - 1  |     | Yes                       | No    | No                        | N    | lo                 | No   | Yes   |       | No    | No     | No   | Both on and offshell W decay      |
|                    | $pp 	o 	ilde{t} 	ilde{t}, 	ilde{t} 	o 	ilde{t}$   | $\tilde{\chi}_1^{\pm}b, \tilde{\chi}_1^{\pm} \to W^{\pm}\tilde{\chi}_1^0$              |     | Yes(7)                    | No    | Yes(                      | 7) N | lo                 | No   | Yes(  | 7)    | No    | Yes(7) | No   | Both on and offshell W decay      |
| ATLAS-SUSY-2013-21 | $pp 	o 	ilde{t}	ilde{t}, 	ilde{t} 	o 	ilde{t}$  | $c	ilde{\chi}^0_1$   |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | Yes   | Yes    | Yes  | UL for separate SR only           |
|                    | $pp 	o 	ilde{t} 	ilde{t}, 	ilde{t} 	o t$  | $bff	ilde{\chi}^0_1$   |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | Yes   | Yes    | Yes  | UL for separate SR only           |
|                    | $pp  ightarrow 	ilde{b} 	ilde{b}, 	ilde{b}  ightarrow 	ilde{b}  ightarrow$                                      | $b\tilde{\chi}_1^0$  |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | Yes   | Yes    | Yes  | UL for separate SR only           |
| ATLAS-SUSY-2014-03 | $pp  ightarrow 	ilde{c} 	ilde{c}, 	ilde{c}  ightarrow$  | $c\tilde{\chi}_1^0$  |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | No    | Yes    | No   | UL for separate SR,no combination |
| ATLAS-SUSY-2013-23 | $pp \rightarrow \tilde{\chi}_1^{\pm} \tilde{\chi}_2^0, \tilde{\chi}_3^0$  | $\tilde{\chi}_1^{\pm} \to W \tilde{\chi}_1^0, \tilde{\chi}_2^0 \to H \tilde{\chi}_1^0$ |     | Yes                       | No    | No                        | N    | lo                 | Yes  | Yes   |       | No    | Yes    | No   |                                   |
| ATLAS-SUSY-2014-04 | $pp 	o 	ilde{t} 	ilde{t}, 	ilde{t} 	o 	ilde{t}$   | $	ilde{	au} u b, 	ilde{	au}  ightarrow 	au 	ilde{G}$                                   |     | Yes                       | No    | No                        | N    | lo                 | No   | Yes   |       | No    | Yes    | No   |                                   |

Table 2: Summary table of the ATLAS collaboration analyses results - upper limits and efficiency maps. The tag 'Yes' means that at least one of the results in the analysis targeting the specified model is provided in digital format. In brackets are the numbers of mass planes provided.