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NLO-NLL slepton-pair cross sections

The following cross sections are for slepton-slepton pair production for left and right sleptons as well as for simplified model with stau-pair production. They have been calculated for $\sqrt{s} = 14$ TeV at NLO-NLL using the resummino code from B. Fuks et al with NLO CT10 PDFs.

When using these cross sections, please cite the following reference, available below in bibtex format:

Show References Hide References

```
@article{Fuks:2013lya,
  author      = "Fuks, Benjamin and Klasen, Michael and Lamprea, David R. and Rothering, Marco",
  title       = "{Revisiting slepton pair production at the Large Hadron Collider}",
  journal     = "JHEP",
  volume     = "01",
  pages      = "168",
  year       = "2014",
  doi        = {10.1007/JHEP01(2014)168},
  eprint     = "1310.2621",
  archivePrefix = "arXiv",
  primaryClass = "hep-ph",
  reportNumber = "CERN-PH-TH-2013-240, MS-TP-13-35",
  SLACcitation = "%%CITATION = ARXIV:1310.2621;%%",
}
```

NLO-NLL $\sigma_{L^+L^-}$: any single generation of left-handed sleptons

m_l [GeV]	xsec [fb]	-scale unc [%]	-pdf unc [%]	+scale unc [%]	+pdf unc [%]
50	4470.8	-1.6	-3.7	1.6	3.2
100	299.78	-0.5	-3.4	0	3.2
150	70.98	-0.3	-3.8	0	3.3
200	24.7	-0.4	-4.3	0.1	3.5
250	10.55	-0.4	-4.8	0	3.8
300	5.13	-0.4	-5.3	0.2	4.1
350	2.73	-0.3	-5.8	0	4.3
400	1.54	-0.3	-6.1	0	4.9
450	0.92	-0.2	-6.5	0	5.3
500	0.57	-0.3	-7	0	5.4

NLO-NLL $\sigma_{R^+R^-}$: any single generation of right-handed sleptons

m_l [GeV]	xsec [fb]	-scale unc [%]	-pdf unc [%]	+scale unc [%]	+pdf unc [%]
50	1499.5	-1.7	-3.8	1.6	3.2
100	106.68	-0.4	-4.1	0	3.5
150	26.09	-0.4	-4.3	0	3.6
200	9.22	-0.4	-4.8	0.1	3.8
250	3.97	-0.4	-5.2	0	4.1
300	1.94	-0.4	-5.6	0.2	4.4
350	1.04	-0.3	-6.1	0	4.7

400	0.59	-0.3	-6.3	0	5.2
450	0.35	-0.2	-6.7	0	5.6
500	0.22	-0.3	-7.2	0	5.6

NLO-NLL $I_{1^+} I_{1^-}$: any single generation of maximally mixed sleptons

$m_{\tilde{l}}$ [GeV]	xsec [fb]	-scale unc [%]	-pdf unc [%]	+scale unc [%]	+pdf unc [%]
50	1027.1	-1.4	-4.4	1.3	3.8
100	113.58	-0.4	-4.3	0	3.6
150	28.55	-0.4	-4.5	0	3.7
200	10.17	-0.4	-4.9	0.1	3.9
250	4.41	-0.4	-5.3	0	4.1
300	2.16	-0.4	-5.7	0.2	4.4
350	1.16	-0.3	-6	0.1	4.8
400	0.66	-0.3	-6.4	0	5.2
450	0.39	-0.3	-6.7	0	5.6
500	0.24	-0.3	-7.2	0	5.8

-- LesyaShchutka - 2015-02-11

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