Supplementary material for LHCb-PAPER-2020-027

Tables 1, 2 and 3 present the detection efficiencies and the upper limits on production cross-section times branching fraction as a function of $m_{\rm LLP}$ and $\tau_{\rm LLP}$ for the LLPs produced through the DPP, HIG and CC mechanisms, respectively.

Table 1: Efficiency in percentage, and 95 % CL upper limits on the production cross-section times branching fraction for LLPs produced through the DPP mechanism.

$m_{\rm LLP}$	$\tau_{\rm LLP}$	ϵ	expected UL	observed UL
7.0	2	4.1 ± 0.4	$0.16^{+0.08}_{-0.05}$	0.15
7.0	5	4.5 ± 0.4	$0.14^{+0.07}_{-0.04}$	0.12
7.0	10	3.8 ± 0.4	$0.18^{+0.09}_{-0.06}$	0.15
7.0	25	2.3 ± 0.3	$0.27^{+0.14}_{-0.09}$	0.24
7.0	50	1.4 ± 0.2	$0.47^{+0.24}_{-0.15}$	0.37
7.8	2	4.1 ± 0.4	$0.13^{+0.07}_{-0.04}$	0.16
7.8	5	4.5 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.13
7.8	10	3.9 ± 0.4	$0.14^{+0.07}_{-0.04}$	0.15
7.8	25	2.4 ± 0.3	$0.23^{+0.12}_{-0.07}$	0.23
7.8	50	1.5 ± 0.2	$0.37^{+0.18}_{-0.12}$	0.35
8.7	2	4.1 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.10
8.7	5	4.5 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.09
8.7	10	4.0 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.10
8.7	25	2.6 ± 0.3	$0.19^{+0.09}_{-0.06}$	0.15
8.7	50	1.6 ± 0.2	$0.30^{+0.15}_{-0.09}$	0.23
9.7	2	4.1 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.06
9.7	5	4.6 ± 0.4	$0.09^{+0.04}_{-0.03}$	0.06
9.7	10	4.1 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.06
9.7	25	2.7 ± 0.3	$0.15^{+0.08}_{-0.04}$	0.09
9.7	50	1.7 ± 0.2	$0.24^{+0.12}_{-0.07}$	0.14
10.8	2	4.0 ± 0.4	$0.08^{+0.04}_{-0.03}$	0.09
10.8	5	4.6 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.08
10.8	10	4.2 ± 0.4	$0.08^{+0.04}_{-0.03}$	0.08
10.8	25	2.9 ± 0.3	$0.12^{+0.06}_{-0.04}$	0.12
10.8	50	1.8 ± 0.2	$0.19^{+0.10}_{-0.06}$	0.18
12.1	2	4.0 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.06
12.1	5	4.6 ± 0.4	$0.06^{+0.03}_{-0.02}$	0.05
12.1	10	4.3 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.06
12.1	25	3.0 ± 0.3	$0.10^{+0.05}_{-0.03}$	0.08
12.1	50	2.0 ± 0.2	$0.15^{+0.08}_{-0.05}$	0.12
13.5	2	4.0 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.07
13.5	5	4.6 ± 0.4	$0.06^{+0.03}_{-0.02}$	0.06
13.5	10	4.4 ± 0.4	$0.06^{+0.03}_{-0.02}$	0.06
13.5	25	3.2 ± 0.3	$0.09^{+0.05}_{-0.03}$	0.09
13.5	50	2.1 ± 0.2	$0.14^{+0.07}_{-0.05}$	0.13
15.1	2	4.0 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.13
15.1	5	4.7 ± 0.4	$0.06^{+0.03}_{-0.02}$	0.11
15.1	10	4.5 ± 0.4	$0.06^{+0.03}_{-0.02}$	0.12
15.1	25	3.4 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.15
15.1	50	2.3 ± 0.2	$0.13^{+0.07}_{-0.04}$	0.23
16.9	2	4.0 ± 0.4	$0.08^{+0.04}_{-0.03}$	0.11
16.9	5	4.7 ± 0.4	$0.07^{+0.03}_{-0.02}$	0.09
16.9	10	4.6 ± 0.4	$0.07^{+0.04}_{-0.02}$	0.09
16.9	25	3.5 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.12
16.9	50	2.4 ± 0.2	$0.14^{+0.07}_{-0.04}$	0.18
18.9	2	4.0 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.07
18.9	5	4.7 ± 0.4	$0.08^{+0.04}_{-0.02}$	0.06
18.9	10	4.6 ± 0.5	$0.08^{+0.04}_{-0.03}$	0.06
18.9	25	3.6 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.08
18.9	50	2.6 ± 0.3	$0.15^{+0.07}_{-0.05}$	0.10

$m_{\rm LLP}$	$\tau_{\rm LLP}$	ϵ	expected UL	observed UL
21.2	2	3.9 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.07
21.2	5	4.7 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.06
21.2	10	4.7 ± 0.5	$0.09^{+0.05}_{-0.03}$	0.07
21.2	25	3.8 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.08
21.2	50	2.7 ± 0.3	$0.16^{+0.08}_{-0.05}$	0.11
23.8	2	3.9 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.15
23.8	5	4.7 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.13
23.8	10	4.7 ± 0.5	$0.09^{+0.05}_{-0.03}$	0.14
23.8	25	3.9 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.16
23.8	50	2.8 ± 0.3	$0.15^{+0.08}_{-0.05}$	0.21
26.7	2	3.8 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.09
26.7	5	4.6 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.08
26.7	10	4.7 ± 0.5	$0.10^{+0.05}_{-0.03}$	0.08
26.7	25	3.9 ± 0.4	$0.11^{+0.06}_{-0.04}$	0.09
26.7	50	2.9 ± 0.3	$0.15^{+0.08}_{-0.05}$	0.12
29.8	2	3.8 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.07
29.8	5	4.5 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.06
29.8	10	4.6 ± 0.5	$0.10^{+0.05}_{-0.03}$	0.06
29.8	25	3.9 ± 0.5	$0.12^{+0.06}_{-0.04}$	0.07
29.8	50	3.0 ± 0.3	$0.15^{+0.08}_{-0.05}$	0.09
33.3	2	3.7 ± 0.4	$0.13^{+0.06}_{-0.04}$	0.15
33.3	5	4.4 ± 0.4	$0.11^{+0.05}_{-0.03}$	0.14
33.3	10	4.5 ± 0.5	$0.11^{+0.05}_{-0.03}$	0.14
33.3	25	3.9 ± 0.5	$0.12^{+0.06}_{-0.04}$	0.17
33.3	50	3.0 ± 0.3	$0.15^{+0.08}_{-0.05}$	0.20
37.2	2	3.5 ± 0.4	$0.14^{+0.07}_{-0.04}$	0.23
37.2	5	4.2 ± 0.4	$0.11^{+0.05}_{-0.04}$	0.20
37.2	10	4.3 ± 0.5	$0.11^{+0.06}_{-0.04}$	0.21
37.2	25	3.8 ± 0.5	$0.13^{+0.07}_{-0.04}$	0.24
37.2	50	3.0 ± 0.3	$0.16^{+0.08}_{-0.05}$	0.29
41.7	2	3.4 ± 0.4	$0.15^{+0.08}_{-0.05}$	0.16
41.7	5	4.0 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.14
41.7	10	4.1 ± 0.5	$0.12^{+0.06}_{-0.04}$	0.15
41.7	25	3.6 ± 0.5	$0.14^{+0.07}_{-0.05}$	0.18
41.7	50	2.9 ± 0.3	$0.17^{+0.08}_{-0.05}$	0.21
47.0	2	3.1 ± 0.4	$0.16^{+0.08}_{-0.05}$	0.22
47.0	5	3.6 ± 0.4	$0.13^{+0.07}_{-0.04}$	0.20
47.0	10	3.8 ± 0.5	$0.13^{+0.07}_{-0.04}$	0.20
47.0	25	3.4 ± 0.5	$0.15^{+0.09}_{-0.05}$	0.25
47.0	50	2.7 ± 0.3	$0.18^{+0.09}_{-0.06}$	0.29
50.0	2	2.8 ± 0.4	$0.17^{+0.09}_{-0.06}$	0.19
50.0	5	3.4 ± 0.4	$0.14^{+0.07}_{-0.05}$	0.16
50.0	10	3.6 ± 0.5	$0.14^{+0.07}_{-0.04}$	0.17
50.0	25	3.2 ± 0.5	$0.16^{+0.09}_{-0.05}$	0.21
50.0	50	2.5 ± 0.3	$0.20^{+0.11}_{-0.07}$	0.26

Table 2: Efficiency in percentage, and 95 % CL upper limits on the production cross-section times branching fraction for LLPs produced through the HIG mechanism.

$m_{\rm LLP}$	$\tau_{\rm LLP}$	ϵ	expected UL	observed UL
7.0	2	3.4 ± 0.4	$0.19^{+0.10}_{-0.06}$	0.18
7.0	5	3.6 ± 0.5	$0.18^{+0.09}_{-0.06}$	0.16
7.0	10	2.8 ± 0.4	$0.23^{+0.13}_{-0.08}$	0.20
7.0	25	1.5 ± 0.3	$0.42^{+0.25}_{-0.15}$	0.36
7.0	50	0.89 ± 0.16	$0.76^{+0.42}_{-0.24}$	0.60
7.8	2	3.4 ± 0.4	$0.16^{+0.08}_{-0.05}$	0.19
7.8	5	3.6 ± 0.5	$0.15^{+0.08}_{-0.05}$	0.17
7.8	10	2.9 ± 0.5	$0.19^{+0.10}_{-0.06}$	0.21
7.8	25	1.7 ± 0.3	$0.34^{+0.19}_{-0.11}$	0.34
7.8	50	0.98 ± 0.17	$0.59^{+0.32}_{-0.19}$	0.57
8.7	2	3.4 ± 0.4	$0.14^{+0.07}_{-0.04}$	0.12
8.7	5	3.7 ± 0.5	$0.13^{+0.07}_{-0.04}$	0.11
8.7	10	3.1 ± 0.5	$0.16^{+0.08}_{-0.05}$	0.13
8.7	25	1.8 ± 0.3	$0.27^{+0.15}_{-0.09}$	0.21
8.7	50	1.1 ± 0.2	$0.47^{+0.25}_{-0.15}$	0.36
9.7	2	3.4 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.08
9.7	5	3.7 ± 0.5	$0.11^{+0.06}_{-0.03}$	0.07
9.7	10	3.2 ± 0.5	$0.13^{+0.07}_{-0.04}$	0.08
9.7	25	2.0 ± 0.3	$0.21^{+0.12}_{-0.06}$	0.13
9.7	50	1.2 ± 0.2	$0.36^{+0.20}_{-0.11}$	0.21
10.8	2	3.4 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.10
10.8	5	3.8 ± 0.5	$0.09^{+0.05}_{-0.03}$	0.10
10.8	10	3.3 ± 0.5	$0.10^{+0.06}_{-0.03}$	0.11
10.8	25	2.1 ± 0.3	$0.16^{+0.09}_{-0.05}$	0.16
10.8	50	1.3 ± 0.2	$0.27^{+0.15}_{-0.09}$	0.27
12.1	2	3.4 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.07
12.1	5	3.8 ± 0.5	$0.08^{+0.04}_{-0.03}$	0.07
12.1	10	3.4 ± 0.5	$0.09^{+0.05}_{-0.03}$	0.07
12.1	25	2.3 ± 0.3	$0.14^{+0.08}_{-0.05}$	0.11
12.1	50	1.4 ± 0.2	$0.22^{+0.13}_{-0.08}$	0.17
13.5	2	3.4 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.08
13.5	5	3.9 ± 0.5	$0.08^{+0.04}_{-0.03}$	0.07
13.5	10	3.6 ± 0.5	$0.08^{+0.05}_{-0.03}$	0.08
13.5	25	2.4 ± 0.4	$0.12^{+0.07}_{-0.04}$	0.11
13.5	50	1.5 ± 0.2	$0.20^{+0.11}_{-0.07}$	0.18
15.1	2	3.4 ± 0.4	$0.09^{+0.05}_{-0.03}$	0.15
15.1	5	3.9 ± 0.5	$0.08^{+0.04}_{-0.03}$	0.14
15.1	10	3.7 ± 0.5	$0.08^{+0.04}_{-0.03}$	0.15
15.1	25	2.6 ± 0.4	$0.12^{+0.07}_{-0.04}$	0.21
15.1	50	1.6 ± 0.3	$0.19^{+0.11}_{-0.07}$	0.32
16.9	2	3.3 ± 0.4	$0.10^{+0.05}_{-0.03}$	0.13
16.9	5	3.9 ± 0.5	$0.09^{+0.04}_{-0.03}$	0.11
16.9	10	3.8 ± 0.5	$0.09^{+0.05}_{-0.03}$	0.12
16.9	25	2.7 ± 0.4	$0.12^{+0.07}_{-0.04}$	0.16
16.9	50	1.7 ± 0.3	$0.19^{+0.11}_{-0.06}$	0.25
18.9	2	3.3 ± 0.4	$0.12^{+0.06}_{-0.04}$	0.08
18.9	5	3.9 ± 0.5	$0.10^{+0.05}_{-0.03}$	0.07
18.9	10	3.8 ± 0.6	$0.10^{+0.05}_{-0.03}$	0.07
18.9	25	2.8 ± 0.4	$0.14^{+0.07}_{-0.04}$	0.10
18.9	50	1.8 ± 0.3	$0.21^{+0.11}_{-0.07}$	0.15

$m_{\rm LLP}$	$\tau_{\rm LLP}$	ϵ	expected UL	observed UL
21.2	2	3.3 ± 0.4	$0.13^{+0.07}_{-0.04}$	0.09
21.2	5	3.9 ± 0.5	$0.11^{+0.06}_{-0.04}$	0.08
21.2	10	3.9 ± 0.6	$0.11^{+0.06}_{-0.04}$	0.08
21.2	25	2.9 ± 0.5	$0.15^{+0.08}_{-0.05}$	0.10
21.2	50	1.9 ± 0.3	$0.22^{+0.13}_{-0.08}$	0.15
23.8	2	3.2 ± 0.4	$0.14^{+0.08}_{-0.05}$	0.17
23.8	5	3.8 ± 0.5	$0.11^{+0.06}_{-0.04}$	0.16
23.8	10	3.9 ± 0.6	$0.11^{+0.07}_{-0.04}$	0.17
23.8	25	3.0 ± 0.5	$0.14^{+0.08}_{-0.05}$	0.20
23.8	50	2.0 ± 0.3	$0.21^{+0.12}_{-0.07}$	0.29
26.7	2	3.1 ± 0.4	$0.14^{+0.07}_{-0.05}$	0.10
26.7	5	3.8 ± 0.5	$0.12^{+0.06}_{-0.04}$	0.09
26.7	10	3.8 ± 0.6	$0.12^{+0.06}_{-0.04}$	0.10
26.7	25	3.0 ± 0.5	$0.15^{+0.08}_{-0.05}$	0.12
26.7	50	2.1 ± 0.3	$0.21^{+0.12}_{-0.07}$	0.17
29.8	2	3.0 ± 0.4	$0.15^{+0.08}_{-0.05}$	0.08
29.8	5	3.7 ± 0.5	$0.13^{+0.07}_{-0.04}$	0.07
29.8	10	3.7 ± 0.6	$0.13^{+0.07}_{-0.04}$	0.07
29.8	25	3.0 ± 0.5	$0.15^{+0.08}_{-0.05}$	0.09
29.8	50	2.1 ± 0.4	$0.21^{+0.12}_{-0.07}$	0.12
33.3	2	2.9 ± 0.4	$0.16^{+0.08}_{-0.05}$	0.19
33.3	5	3.5 ± 0.5	$0.14^{+0.07}_{-0.05}$	0.18
33.3	10	3.6 ± 0.6	$0.14^{+0.08}_{-0.05}$	0.18
33.3	25	3.0 ± 0.5	$0.16^{+0.09}_{-0.05}$	0.22
33.3	50	2.2 ± 0.4	$0.22^{+0.12}_{-0.07}$	0.28
37.2	2	2.8 ± 0.4	$0.17^{+0.09}_{-0.06}$	0.28
37.2	5	3.4 ± 0.5	$0.14^{+0.08}_{-0.05}$	0.26
37.2	10	3.4 ± 0.6	$0.14^{+0.08}_{-0.05}$	0.27
37.2	25	2.9 ± 0.6	$0.17^{+0.10}_{-0.05}$	0.32
37.2	50	2.2 ± 0.4	$0.21^{+0.12}_{-0.07}$	0.39
41.7	2	2.7 ± 0.4	$0.19^{+0.09}_{-0.06}$	0.20
41.7	5	3.2 ± 0.5	$0.16^{+0.09}_{-0.05}$	0.19
41.7	10	3.3 ± 0.6	$0.16^{+0.09}_{-0.05}$	0.19
41.7	25	2.8 ± 0.6	$0.18^{+0.11}_{-0.06}$	0.23
41.7	50	2.2 ± 0.4	$0.22^{+0.12}_{-0.07}$	0.28
47.0	2	2.6 ± 0.3	$0.19^{+0.10}_{-0.06}$	0.27
47.0	5	3.1 ± 0.5	$0.16^{+0.09}_{-0.05}$	0.24
47.0	10	3.2 ± 0.6	$0.16^{+0.09}_{-0.05}$	0.26
47.0	25	2.8 ± 0.6	$0.18^{+0.11}_{-0.06}$	0.31
47.0	50	2.2 ± 0.4	$0.22^{+0.12}_{-0.07}$	0.35
50.0	2	2.5 ± 0.3	$0.20^{+0.10}_{-0.06}$	0.21
50.0	5	3.1 ± 0.5	$0.16^{+0.09}_{-0.05}$	0.19
50.0	10	3.2 ± 0.6	$0.16^{+0.09}_{-0.05}$	0.20
50.0	25	2.8 ± 0.6	$0.18^{+0.11}_{-0.06}$	0.24
50.0	50	2.3 ± 0.4	$0.22^{+0.12}_{-0.07}$	0.29

Table 3: Efficiency in percentage, and 95 % CL upper limits on the production cross-section times branching fraction for LLPs produced through the CC mechanism.

m_{LLP}	τ_{LLP}	ϵ	expected UL	observed UL
7.0	2	1.5 ± 0.2	$0.48^{+0.24}_{-0.16}$	0.45
7.0	5	1.6 ± 0.2	$0.42^{+0.21}_{-0.14}$	0.38
7.0	10	1.4 ± 0.2	$0.51^{+0.26}_{-0.17}$	0.44
7.0	25	0.85 ± 0.13	$0.83^{+0.46}_{-0.27}$	0.73
7.0	50	0.50 ± 0.09	$1.52^{+0.84}_{-0.48}$	1.22
7.8	2	1.5 ± 0.2	$0.41^{+0.20}_{-0.13}$	0.50
7.8	5	1.7 ± 0.2	$0.36^{+0.17}_{-0.11}$	0.42
7.8	10	1.5 ± 0.2	$0.42^{+0.21}_{-0.13}$	0.46
7.8	25	0.90 ± 0.14	$0.70^{+0.36}_{-0.22}$	0.73
7.8	50	0.54 ± 0.09	$1.18^{+0.63}_{-0.38}$	1.19
8.7	2	1.5 ± 0.2	$0.35^{+0.17}_{-0.11}$	0.30
8.7	5	1.7 ± 0.2	$0.31^{+0.15}_{-0.09}$	0.26
8.7	10	1.5 ± 0.2	$0.35^{+0.17}_{-0.11}$	0.29
8.7	25	0.96 ± 0.14	$0.56^{+0.29}_{-0.17}$	0.43
8.7	50	0.58 ± 0.09	$0.95^{+0.49}_{-0.30}$	0.72
9.7	2	1.5 ± 0.2	$0.30^{+0.15}_{-0.09}$	0.19
9.7	5	1.7 ± 0.2	$0.26^{+0.13}_{-0.08}$	0.16
9.7	10	1.5 ± 0.2	$0.28^{+0.15}_{-0.09}$	0.17
9.7	25	1.0 ± 0.1	$0.44^{+0.23}_{-0.13}$	0.26
9.7	50	0.63 ± 0.09	$0.73^{+0.39}_{-0.22}$	0.43
10.8	2	1.5 ± 0.2	$0.26^{+0.13}_{-0.08}$	0.26
10.8	5	1.7 ± 0.2	$0.22^{+0.11}_{-0.07}$	0.22
10.8	10	1.6 ± 0.2	$0.23^{+0.12}_{-0.07}$	0.23
10.8	25	1.1 ± 0.1	$0.34^{+0.18}_{-0.11}$	0.34
10.8	50	0.68 ± 0.10	$0.55^{+0.29}_{-0.18}$	0.53
12.1	2	1.5 ± 0.2	$0.22^{+0.12}_{-0.08}$	0.19
12.1	5	1.7 ± 0.2	$0.19^{+0.10}_{-0.06}$	0.16
12.1	10	1.6 ± 0.2	$0.20^{+0.11}_{-0.07}$	0.17
12.1	25	1.2 ± 0.2	$0.29^{+0.16}_{-0.10}$	0.23
12.1	50	0.74 ± 0.10	$0.45^{+0.25}_{-0.15}$	0.36
13.5	2	1.5 ± 0.1	$0.22^{+0.12}_{-0.07}$	0.21
13.5	5	1.8 ± 0.2	$0.18^{+0.10}_{-0.06}$	0.18
13.5	10	1.7 ± 0.2	$0.18^{+0.10}_{-0.06}$	0.18
13.5	25	1.2 ± 0.2	$0.26^{+0.14}_{-0.09}$	0.24
13.5	50	0.80 ± 0.11	$0.41^{+0.22}_{-0.14}$	0.37
15.1	2	1.5 ± 0.1	$0.22^{+0.11}_{-0.07}$	0.38
15.1	5	1.8 ± 0.2	$0.18^{+0.10}_{-0.06}$	0.33
15.1	10	1.7 ± 0.2	$0.19^{+0.10}_{-0.06}$	0.33
15.1	25	1.3 ± 0.2	$0.25^{+0.14}_{-0.09}$	0.44
15.1	50	0.86 ± 0.11	$0.39^{+0.21}_{-0.13}$	0.67
16.9	2	1.5 ± 0.1	$0.24^{+0.12}_{-0.08}$	0.32
16.9	5	1.8 ± 0.2	$0.20^{+0.10}_{-0.06}$	0.27
16.9	10	1.8 ± 0.2	$0.20^{+0.10}_{-0.06}$	0.27
16.9	25	1.4 ± 0.2	$0.26^{+0.14}_{-0.08}$	0.34
16.9	50	0.92 ± 0.12	$0.40^{+0.21}_{-0.12}$	0.51
18.9	2	1.5 ± 0.2	$0.28^{+0.13}_{-0.09}$	0.19
18.9	5	1.9 ± 0.2	$0.23^{+0.11}_{-0.07}$	0.16
18.9	10	1.8 ± 0.2	$0.23^{+0.11}_{-0.07}$	0.17
18.9	25	1.4 ± 0.2	$0.29^{+0.14}_{-0.09}$	0.20
18.9	50	0.98 ± 0.13	$0.43^{+0.22}_{-0.14}$	0.29

m_{LLP}	τ_{LLP}	ϵ	expected UL	observed UL
21.2	2	1.5 ± 0.2	$0.32^{+0.16}_{-0.10}$	0.21
21.2	5	1.9 ± 0.2	$0.25^{+0.13}_{-0.08}$	0.17
21.2	10	1.9 ± 0.2	$0.25^{+0.13}_{-0.08}$	0.18
21.2	25	1.5 ± 0.2	$0.31^{+0.16}_{-0.10}$	0.21
21.2	50	1.0 ± 0.1	$0.45^{+0.24}_{-0.15}$	0.30
23.8	2	1.5 ± 0.2	$0.31^{+0.17}_{-0.10}$	0.41
23.8	5	1.9 ± 0.2	$0.24^{+0.13}_{-0.08}$	0.36
23.8	10	1.9 ± 0.2	$0.24^{+0.13}_{-0.08}$	0.37
23.8	25	1.6 ± 0.2	$0.29^{+0.16}_{-0.10}$	0.42
23.8	50	1.1 ± 0.1	$0.41^{+0.23}_{-0.14}$	0.57
26.7	2	1.5 ± 0.2	$0.30^{+0.16}_{-0.10}$	0.22
26.7	5	1.9 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.20
26.7	10	2.0 ± 0.2	$0.24^{+0.13}_{-0.08}$	0.20
26.7	25	1.6 ± 0.2	$0.28^{+0.15}_{-0.09}$	0.24
26.7	50	1.2 ± 0.2	$0.40^{+0.21}_{-0.13}$	0.32
29.8	2	1.6 ± 0.2	$0.30^{+0.15}_{-0.10}$	0.16
29.8	5	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.14
29.8	10	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.15
29.8	25	1.7 ± 0.2	$0.28^{+0.15}_{-0.09}$	0.17
29.8	50	1.2 ± 0.2	$0.38^{+0.20}_{-0.13}$	0.22
33.3	2	1.6 ± 0.2	$0.30^{+0.15}_{-0.10}$	0.35
33.3	5	2.0 ± 0.2	$0.25^{+0.12}_{-0.08}$	0.31
33.3	10	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.32
33.3	25	1.7 ± 0.2	$0.29^{+0.15}_{-0.09}$	0.38
33.3	50	1.3 ± 0.2	$0.37^{+0.19}_{-0.12}$	0.49
37.2	2	1.6 ± 0.2	$0.30^{+0.15}_{-0.09}$	0.47
37.2	5	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.42
37.2	10	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.43
37.2	25	1.7 ± 0.2	$0.27^{+0.14}_{-0.09}$	0.52
37.2	50	1.3 ± 0.2	$0.36^{+0.19}_{-0.12}$	0.65
41.7	2	1.7 ± 0.2	$0.30^{+0.15}_{-0.09}$	0.32
41.7	5	2.0 ± 0.2	$0.24^{+0.12}_{-0.08}$	0.28
41.7	10	2.1 ± 0.3	$0.23^{+0.12}_{-0.08}$	0.29
41.7	25	1.8 ± 0.2	$0.28^{+0.15}_{-0.09}$	0.36
41.7	50	1.4 ± 0.2	$0.35^{+0.18}_{-0.12}$	0.44
47.0	2	1.7 ± 0.2	$0.29^{+0.14}_{-0.10}$	0.40
47.0	5	2.1 ± 0.2	$0.23^{+0.11}_{-0.07}$	0.35
47.0	10	2.1 ± 0.3	$0.22^{+0.11}_{-0.07}$	0.35
47.0	25	1.8 ± 0.2	$0.26^{+0.15}_{-0.09}$	0.44
47.0	50	1.4 ± 0.2	$0.33^{+0.18}_{-0.11}$	0.53
50.0	2	1.7 ± 0.2	$0.29^{+0.14}_{-0.09}$	0.31
50.0	5	2.1 ± 0.2	$0.22^{+0.11}_{-0.07}$	0.26
50.0	10	2.2 ± 0.3	$0.22^{+0.11}_{-0.07}$	0.27
50.0	25	1.9 ± 0.2	$0.26^{+0.13}_{-0.08}$	0.34
50.0	50	1.5 ± 0.2	$0.34^{+0.17}_{-0.11}$	0.43