
Λ_c Production

8th August, 2022

Λ_c in ep

- Source 1: from proton

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	22	4	0	0
7	21	-4	5	0	0
8	21	22	6	0	0
9	21	-4	7	0	0
10	21	-4	9	0	0
11	11	4122	5	16	18
12	1	11	3	0	0
13	12	2	5	20	22
14	12	21	10	20	22
15	11	-4	10	20	22
16	11	213	11	23	24
17	1	2112	11	0	0
18	11	-311	11	25	25
19	11	92	13	20	22

- Source: from parton

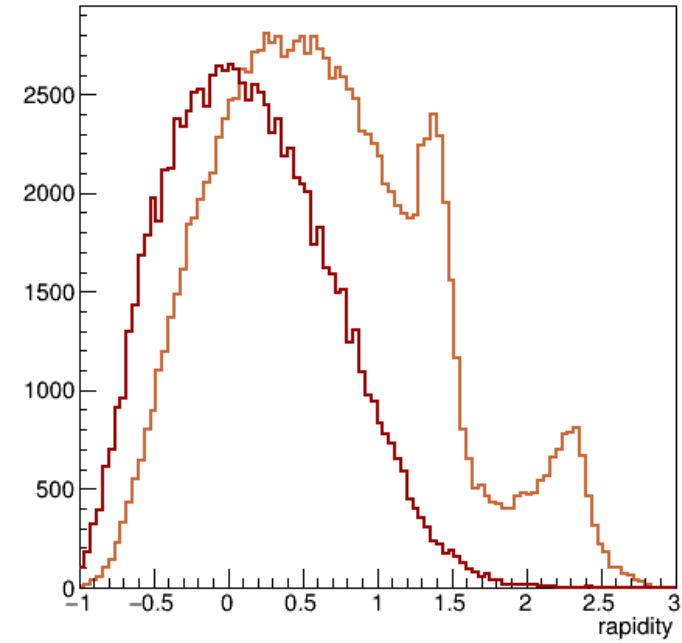
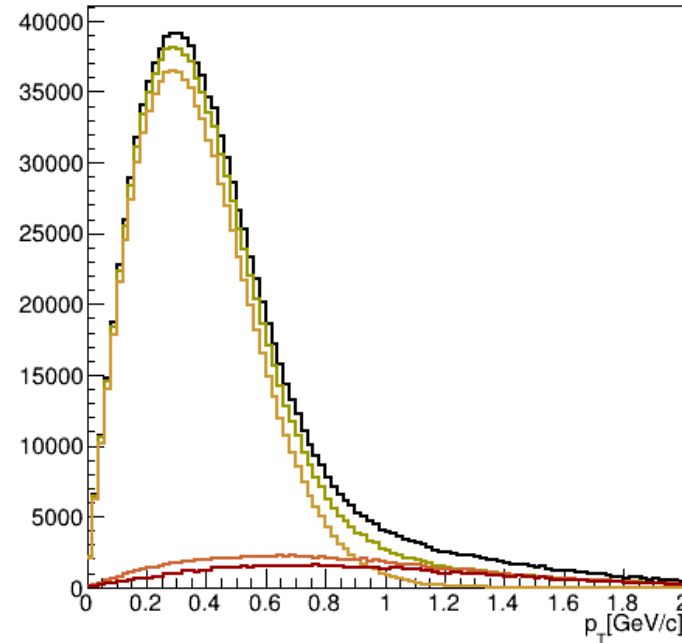
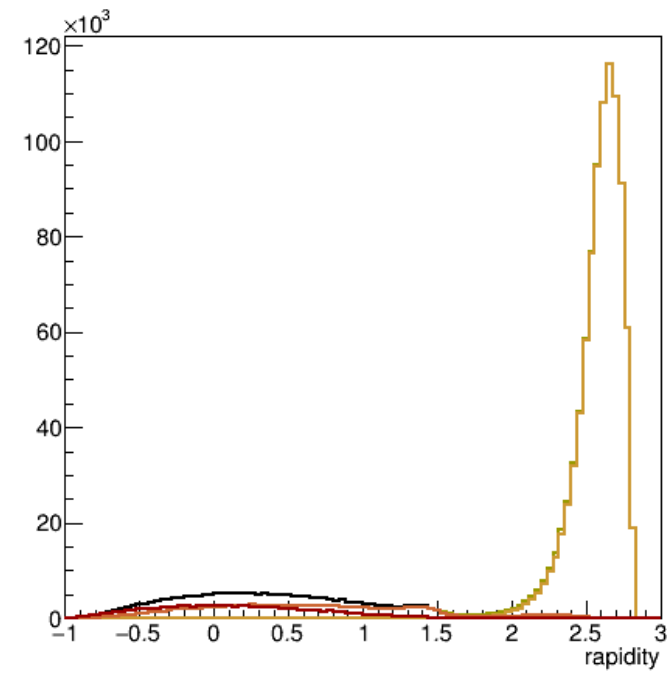
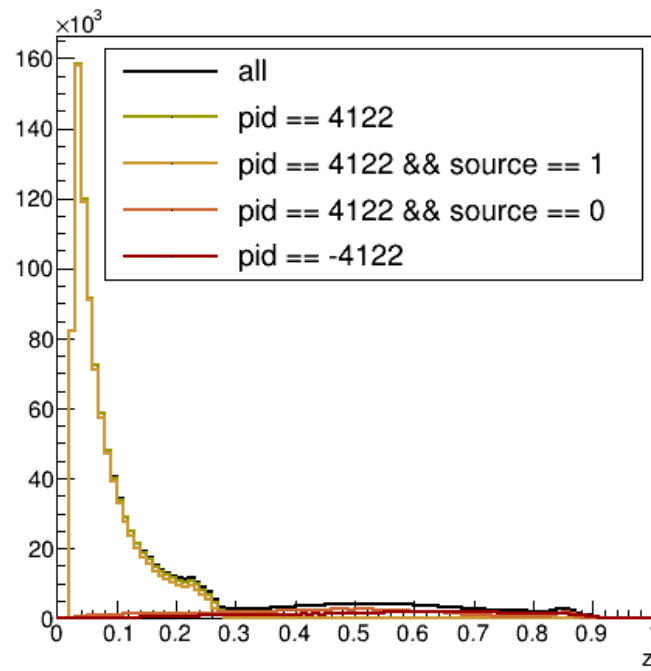
I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	9900440	4	0	0
7	21	2212	5	0	0
8	12	-4	6	13	16
9	11	4	6	13	16
10	1	2212	7	0	0
11	1	11	3	0	0
12	11	92	8	13	16
13	11	-4122	8	17	19
14	11	3122	8	20	21
15	11	311	9	22	22
16	11	411	9	23	25
17	1	321	13	0	0

particle: id="9900440" name="J/psi_dif"

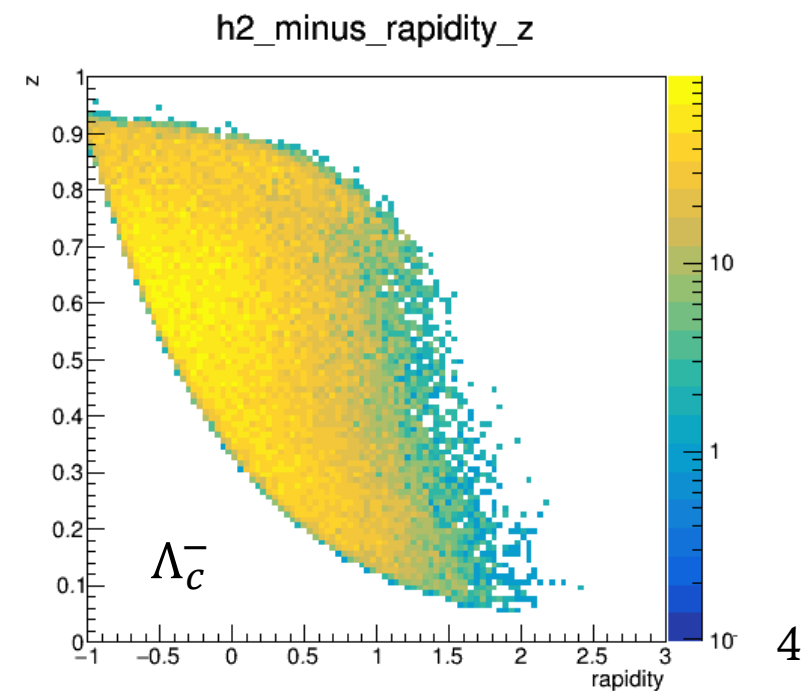
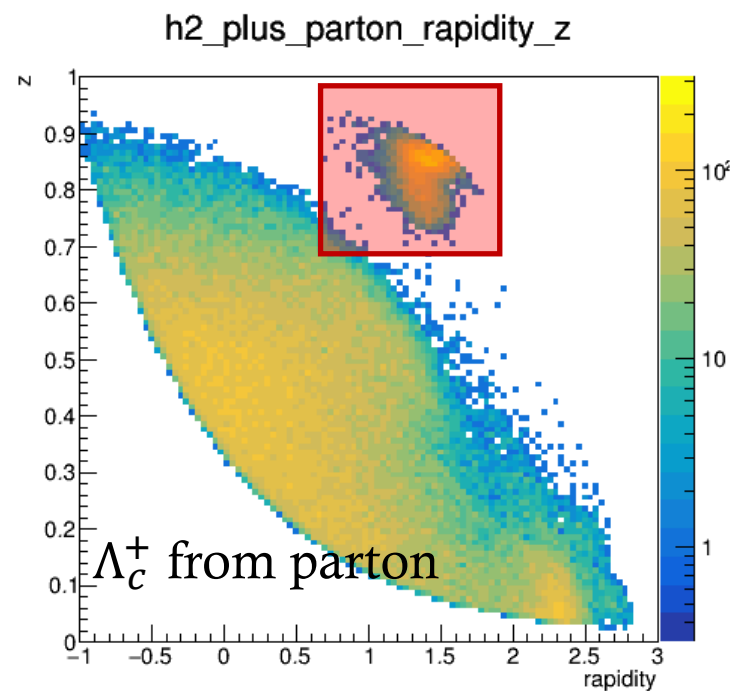
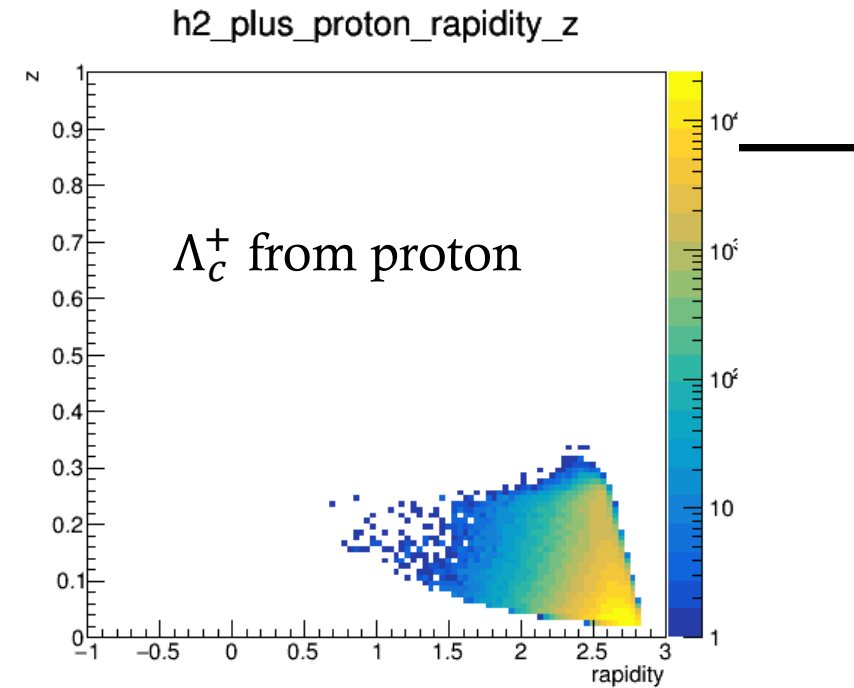
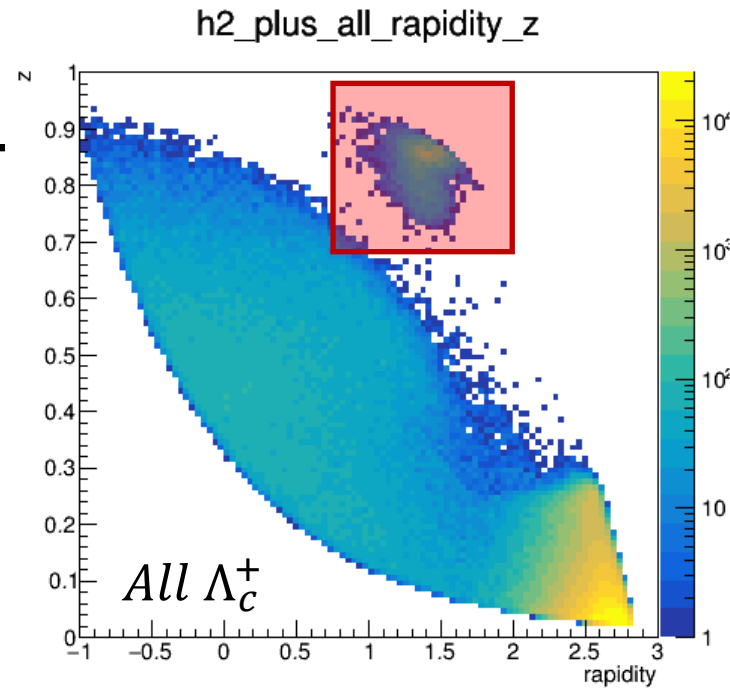
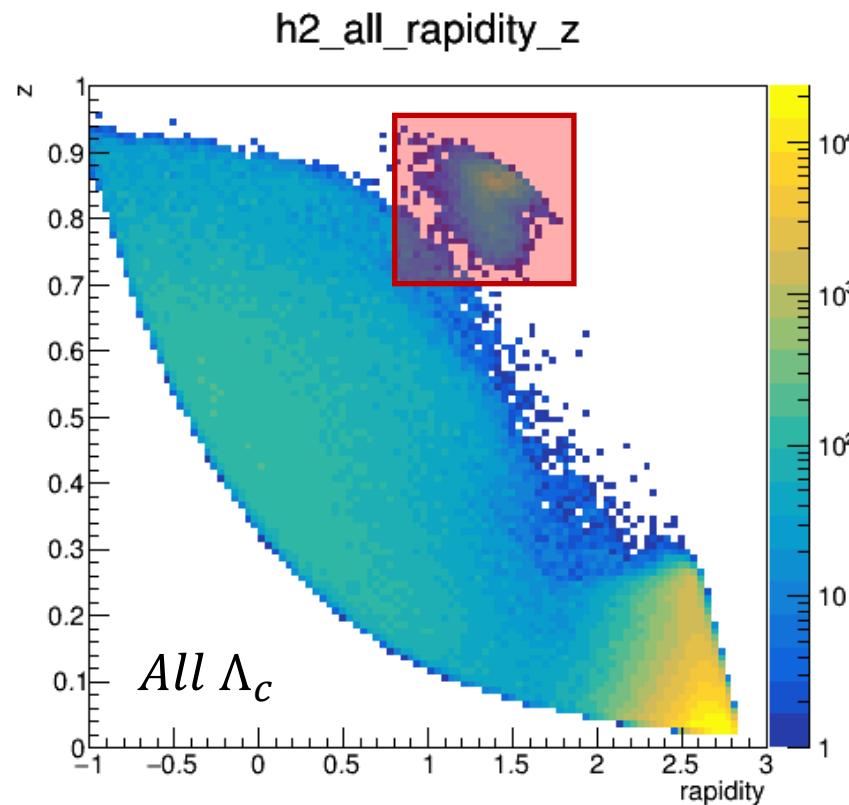
4122;{4122,5332,5232,5132,5122,4212,4214,4222,4224,4124,4114}

Distiribution

- $e(3.5 \text{ GeV}) p(20 \text{ GeV})$



Distribution



Λ_c^+ (source 0)

- in red shadow area

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	22	4	0	0
7	21	4	5	0	0
8	21	22	6	0	0
9	21	4	7	0	0
10	21	4	9	0	0
11	11	-423	5	17	18
12	1	11	3	0	0
13	12	4	10	16	16
14	11	2103	5	16	16
15	11	91	13	16	16
16	11	4214	13	19	20
17	11	-421	11	21	24

- outside red shadow area

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	22	4	0	0
7	21	4	5	0	0
8	21	22	6	0	0
9	21	4	7	0	0
10	21	4	9	0	0
11	11	-413	5	15	16
12	1	11	3	0	0
13	12	4	10	18	22
14	11	2203	5	18	22
15	11	-411	11	23	25
16	11	111	11	26	27
17	11	92	13	18	22
18	11	4122	13	28	30

Another parton emitted

Charm Hadrons *recoiling*

$$\gamma g \rightarrow c \bar{c}$$

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	21	4	0	0
7	21	-2	5	0	0
8	21	21	6	0	0
9	21	-2	7	0	0
10	21	21	0	0	0
11	21	-2	0	0	0
12	11	2224	5	25	26
13	1	11	3	0	0
14	12	-2	11	21	21
15	12	21	10	23	23
16	11	4	4	24	24
17	12	-4	4	20	20
18	11	1	5	20	20
19	11	91	17	20	20
20	11	-413	17	27	28
21	12	-2	14	30	33
22	12	21	19	30	33
23	12	21	15	30	33
24	11	4	16	30	33
25	1	2212	12	0	0
26	1	211	12	0	0
27	11	-411	20	34	36
28	11	111	20	37	38
29	11	92	21	30	33
30	11	111	21	39	40
31	1	-211	24	0	0
32	1	-2112	24	0	0
33	11	4122	24	41	44

$$\Lambda_c^-$$

Λ_c^-, Λ_c^+ : 63444, total Λ_c^- : 95912, total Λ_c^+ : 1032710

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	22	4	0	0
7	21	-4	5	0	0
8	21	22	6	0	0
9	21	-4	7	0	0
10	21	-4	9	0	0
11	11	4122	5	15	17
12	1	11	3	0	0
13	12	-4	10	19	20
14	11	2	5	19	20
15	1	211	11	0	0
16	1	2112	11	0	0
17	11	111	11	21	22
18	11	92	13	19	20
19	11	-4122	13	23	26

• Light Hadron Recoiling

I	KS	id	orig	daughter	
1	21	11	0	3	4
2	21	2212	0	5	0
3	21	11	1	0	0
4	21	22	1	0	0
5	21	2212	2	0	0
6	21	21	4	0	0
7	21	-3	5	0	0
8	21	21	6	0	0
9	21	-3	7	0	0
10	21	21	0	0	0
11	21	-3	0	0	0
12	11	3122	5	22	23
13	1	11	3	0	0
14	12	-3	11	20	21
15	11	4	4	20	21
16	12	-4	4	25	26
17	12	21	10	25	26
18	11	2	5	25	26
19	11	91	14	20	21
20	11	311	14	27	27
21	11	413	15	28	29
22	1	2212	12	0	0
23	1	-211	12	0	0
24	11	92	16	25	26
25	11	-4122	16	30	32

- No Charmed Hadron Recoiling
- Ligth hadron recoling