

preliminary study of process $e^+e^- \rightarrow \gamma\Lambda\bar{\Lambda}$ with full datasets

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1 Datasets

- Datasets with relatively large luminosity around or above open charm energy region.

Table: Detail information of the possible datasets.

\sqrt{s} (GeV)	\mathcal{L} (pb $^{-1}$)	runNo.	BOSS	\sqrt{s} (GeV)	\mathcal{L} (pb $^{-1}$)	runNo.	BOSS	\sqrt{s} (GeV)	\mathcal{L} (pb $^{-1}$)	runNo.	BOSS
3.650	445.5	9613-9779, 69612-70132	709	3.682	395.5	70133-70505	709	3.686	3877.1	8093-9025, 25338-27090, 66257-69292	709
3.768	415.8	81389-81631	7xx	3.773	20274.8	11414-13988, 14395-14604, 20448-23454, 70522-81094	712	3.780	410.0	81095-81272	7xx
4.009	482.0	23463-24141	703	4.129	401.5	59163-59573	705	4.160	408.7	59574-59896	705
4.178	3189.0	43716-47066	703	4.189	526.7	47543-48170	703	4.199	526.6	48172-48713	703
4.209	517.1	48714-49239	703	4.219	514.6	49270-49787	703	4.230	1047.3	32239-33484	703
4.236	530.3	49788-50254	703	4.244	538.1	50255-50793	703	4.258	825.7	29677-30367, 31561-31981	703
4.267	531.1	50796-51302	703	4.288	502.4	59902-60363	705	4.313	501.2	60364-60805	705
4.337	505.0	60808-61242	705	4.358	539.8	30616-31279	703	4.378	522.7	61249-61762	705
4.397	507.8	61763-62285	705	4.416	1028.9	36773-38140	703	4.437	569.9	62286-62823	705
4.600	566.9	35227-36213	703	4.628	521.5	63075-63515	706	4.641	551.7	63516-63715	706
4.661	529.4	63718-63852	706	4.682	1667.4	63867-64015, 64365-65092	706	4.699	535.5	64028-64313	706
4.750	366.6	65322-65494	707	4.781	511.5	65495-65645	707	4.843	525.2	65647-65864	707

- 36 energy points with Lum. 46.31 fb (33 energy points with Lum. 41.59 fb) in total.
- Involve BOSS version 703 (XYZ data before 2019), 705 (XYZ data in 2019), 706 (XYZ data in 2020), 707 (XYZ data in 2021), 709 (psip data), and 712 (psipp data).

- The data sets are divided into five groups as shown below.

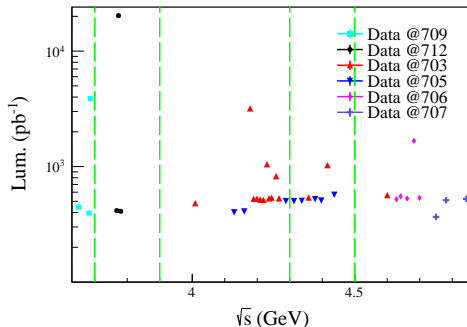


Figure: Display of the luminosity of data sets and the division method.

- group 1: (3.650, 3.682, **3.686**) GeV, with Lum. 4.718 fb^{-1} ; group 2: (3.768, **3.773**, 3.780), with Lum. 21.101 fb^{-1} ; group 3: (4.009, 4.129, 4.160, **4.178**, 4.189, 4.199, 4.209, 4.219, 4.23, 4.236, 4.244, 4.258, 4.267, 4.288) GeV, with Lum. 10.541 fb^{-1} ; group 4: (4.313, 4.337, 4.358, 4.378, 4.397, **4.416**, 4.437) GeV, with Lum. 4.175 fb^{-1} ; group 5: (4.600, 4.628, 4.641, 4.661, **4.682**, 4.699, 4.750, 4.781, 4.843) GeV, with Lum. 5.776 fb^{-1} .