# Progress report of work

Tiantian Lei

Sep. 12, 2022

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- Topic I:  Cross Section Measurement of $e^+e^- \to \Lambda\bar{\Lambda}$ from threshold up to 3.00 GeV/c^2 via Initial State Radiation Technique
- Topic II: Study of Bose-Einstein Correlations (BEC) at BESIII

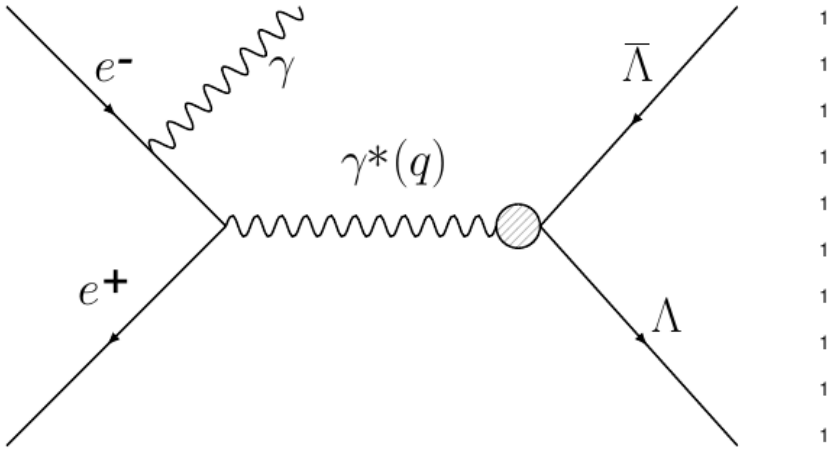
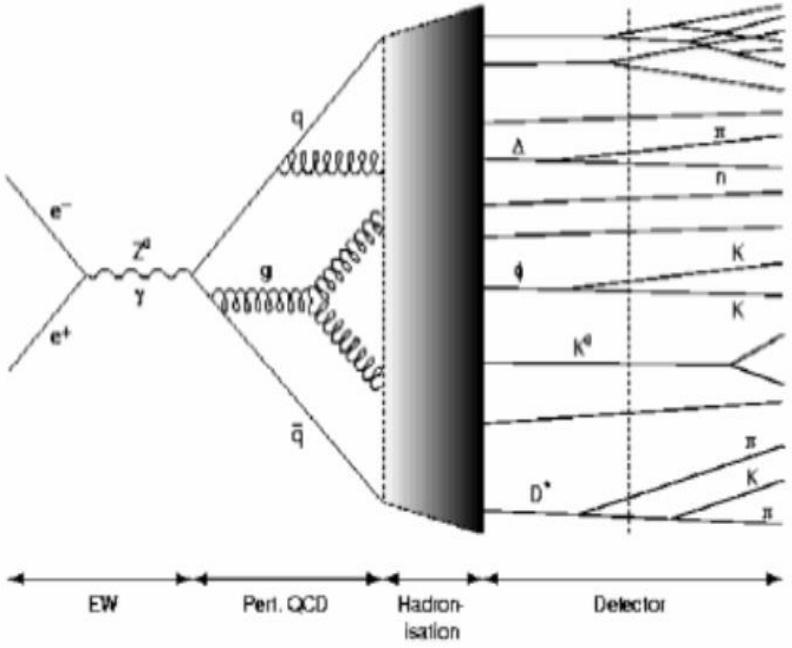



FIG. 1. Feynman diagram for the ISR process $e^+e^- \to \gamma\Lambda\bar{\Lambda}$. The ISR photon can be emitted from the electron or the positron.



# Topic I (1)

- From the end of Feb. to the end of Apr.: complete the study of the systematic uncertainty and the writing of the analysis memo.
- May. 11: report this analysis at the Tau-QCD group meeting and start reviewing it in the Tau-QCD group

中国科学技术大学
University of Science and Technology of China

Cross Section Measurement of $e^+e^- \to \Lambda\bar{\Lambda}$ via Initial State Radiation Technique

Tau-QCD group meeting
May. 11, 2022

Tiantian Lei[1], Dexu Lin[2], Xiaorong Zhou[1], Jiashun Luo[3],
Ronggang Ping[4], and Guangshun Huang[1]
[1]University of Science and Technology of China
[2]Institute of Modern Physics, CAS
[3]Nankai University
[4]Institute of High Energy Physics, CAS

# Topic I (2)

- From early May. to early Jun.: pass the review in the Tau-QCD group and complete the fit of the cross section lineshape.
- Jun. 10: report this analysis at P&S meeting.

中国科学技术大学
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BESIII

Cross Section Measurement of $e^+e^- \to \Lambda\bar{\Lambda}$ via Initial State Radiation Technique

BESIII Physics and Software Meeting
Jun. 10, 2022

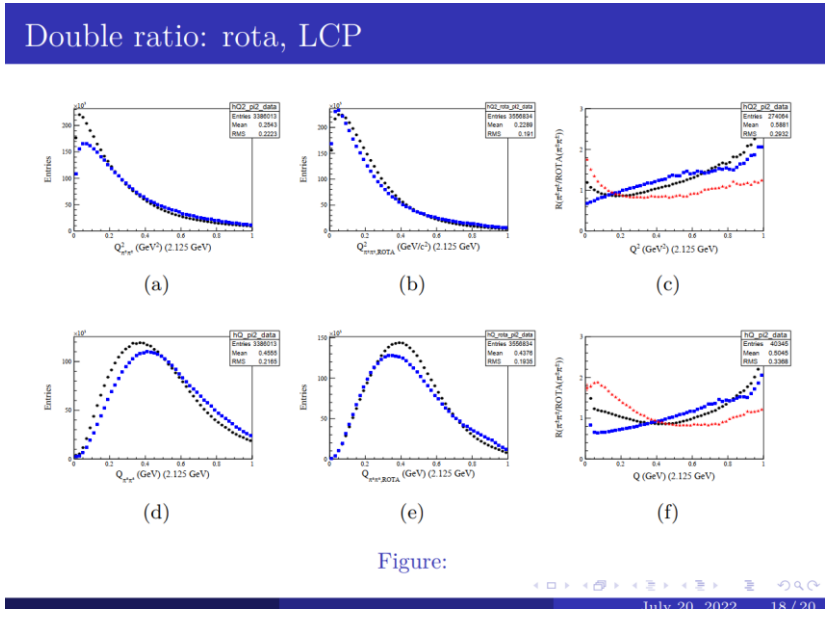
Tiantian Lei[1], Dexu Lin[2], Xiaorong Zhou[1], Jiashun Luo[3],
Ronggang Ping[4], and Guangshun Huang[1]
[1]University of Science and Technology of China
[2]Institute of Modern Physics, CAS
[3]Nankai University
[4]Institute of High Energy Physics, CAS

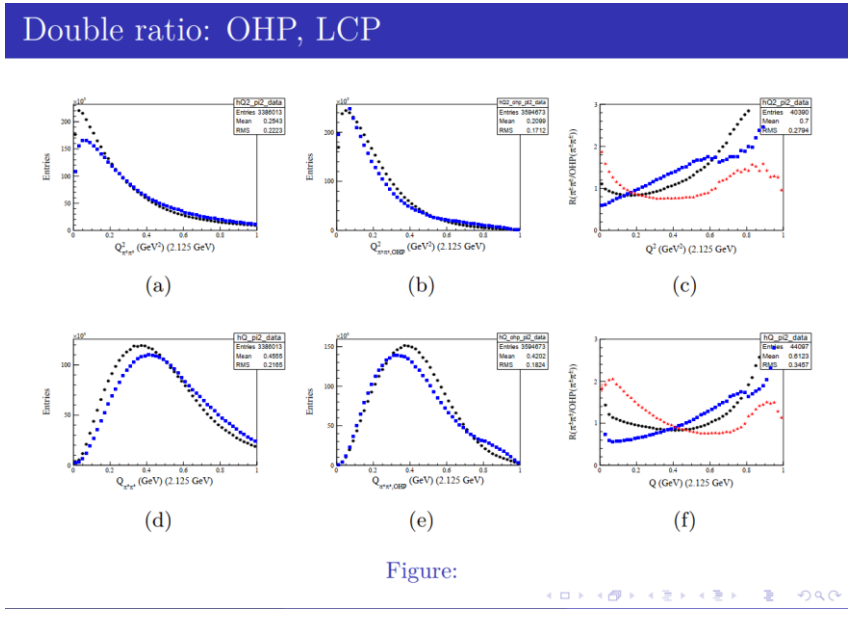
# Topic I (3)

- Jun. 10-Jun. 25: answer the questions at P&S meeting and “discuss” the data sets used in the analysis with the coordinator.
- Jun. 25-early Jul.: discuss the data sets used in the analysis with the referees.
- Early Jul.-now: answer the first round of questions of referees, complete the analysis of another ten data sets, and prepare the draft (almost done)

# Topic II

- From the end of May. to early Jul.: read papers and do investigations:
  - **arXiv:2202.02218v2, Eur. Phys. J. C 75 (2015) 466, Phys. Rev. Lett. 105 (2010) 032001; (LHC, pp collision)**
  - ***Phys.Rev.D* 39 (1989) 1; (MARKII, ee collision)**
  - ***Rev.Mod.Phys.* 62 (1990) 553-602, Rep. Prog. Phys 66 (2003) 481; (overview, theory, pp collision, ee collision, NN collision)**
- Early Jul.-now: try to analysis on some energy points below 3.08~GeV, still lots of work needed.



# Summary

- No summary

Thanks for your attention!