

兰州大学粒子物理研究

李培荣

2018.9.16



人员构成及研究方向

- 队伍：理论（4）+实验（1）



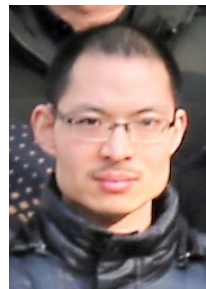
刘翔（教授）



于福升（教授）



刘占伟（副教授）



孙志峰（副教授）



李培荣（青年研究员）

- 研究方向：强子物理和重味物理
- 平台：兰州大学与中科院近物所共建“强子与**CSR**物理研究中心”

理论研究-历史悠久



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EDITORS' SUGGESTION

Identifying Exotic Hidden-Charm Pentaquarks

The pentaquarks discovered by the LHCb Collaboration could be molecular bound states of a charmed baryon and a meson. Observing the predicted isospin partners would allow for this interpretation to be verified.

Rui Chen, Xiang Liu, Xue-Qian Li, and Shi-Lin Zhu

Phys. Rev. Lett. **115**, 132002 (2015)



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Physics Reports 639 (2016) 1–121

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The hidden-charm pentaquark and tetraquark states

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Discovery potentials of doubly charmed baryons^{*}

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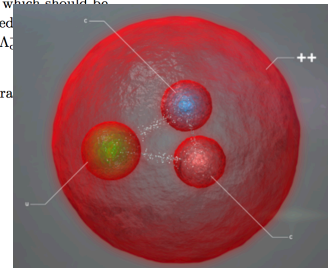
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Abstract: The existence of doubly heavy flavor baryons has not been well established experimentally so far. In this Letter we systematically investigate the weak decays of the doubly charmed baryons, Ξ_{cc}^{++} and Ξ_{cc}^{+} , which should be helpful for experimental searches for these particles. The long-distance contributions are first studied heavy baryon decays, and found to be significantly enhanced. Comparing all the processes, $\Xi_{cc}^{++} \rightarrow \Lambda_c^+ \pi^+$, $\Xi_{cc}^{+} \pi^+$ are the most favorable decay modes for experiments to search for doubly heavy baryons.

Keywords: doubly charmed baryon, weak decay, branching fraction, factorization, final-state interaction

PACS: 12.39.St, 13.30.Eg, 14.20.Lq **DOI:** 10.1088/1674-1137/42/5/051001



■ 强子物理研究为特色（XYZ，粲物理等）

实验研究-力量单薄

- 活下去 => PRL+面上项目
- 慢慢的提高点品味，做些有重要意义的工作
- 深入而广泛的合作
- 自立更生、艰苦奋斗

北京正负电子对撞机

E_{cm} : 2.0-4.6 GeV
 σ_E : 5.16×10^{-4}
 L : $0.65 \times 10^{33} \text{ cm}^{-2}\text{s}^{-1}$

$^1@3770$

11 countries, 52 institutions, 351 authors



Leptons Quarks	u up	c charm	t top
	d down	s strange	b bottom
	ν_e e- neutrino	ν_μ μ - neutrino	ν_τ τ - neutrino
	e electron	μ muon	τ tau
 Three Generations of Matter			

个人研究工作-BESIII实验上粲物理研究

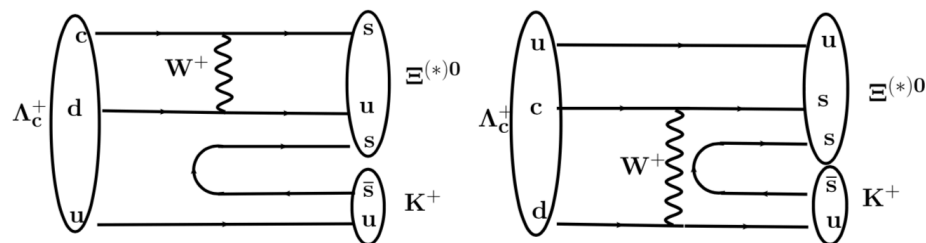
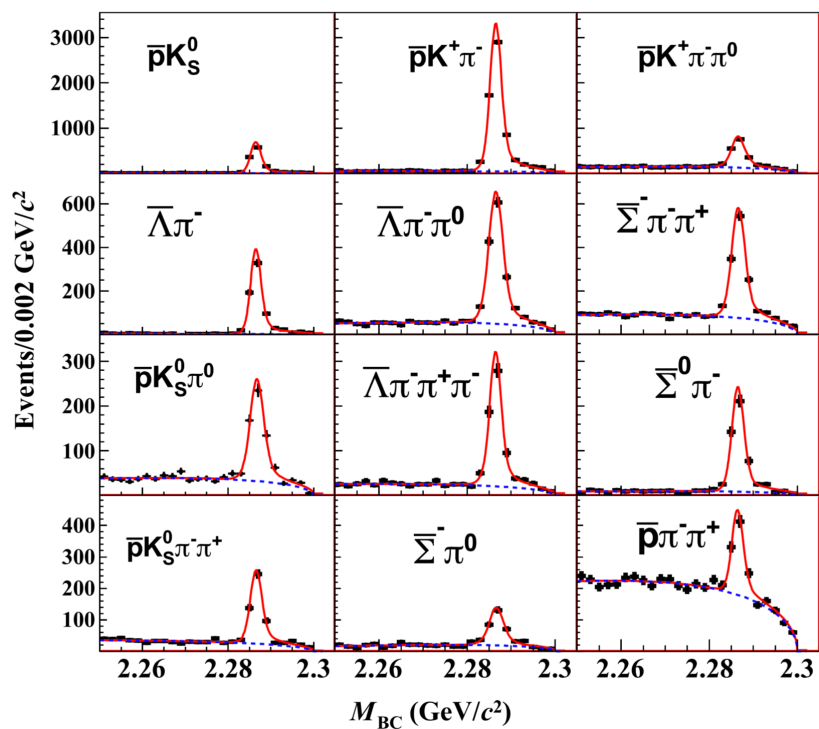
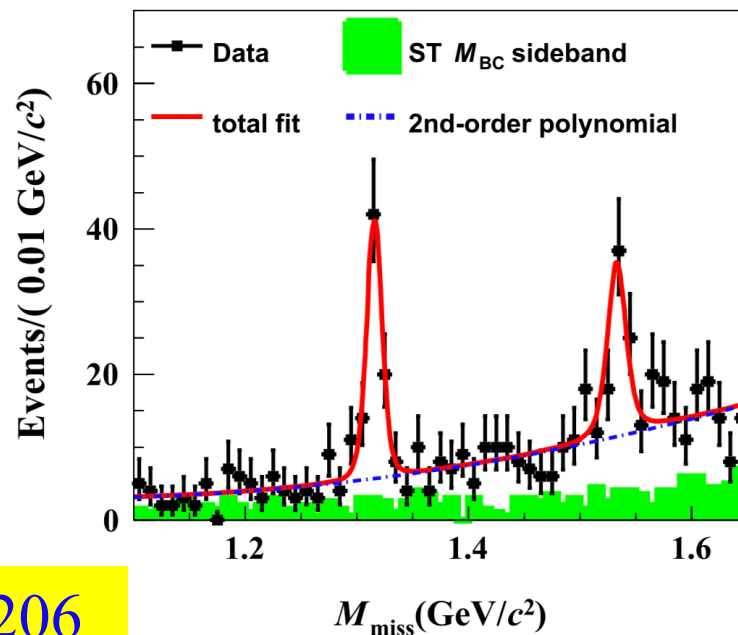


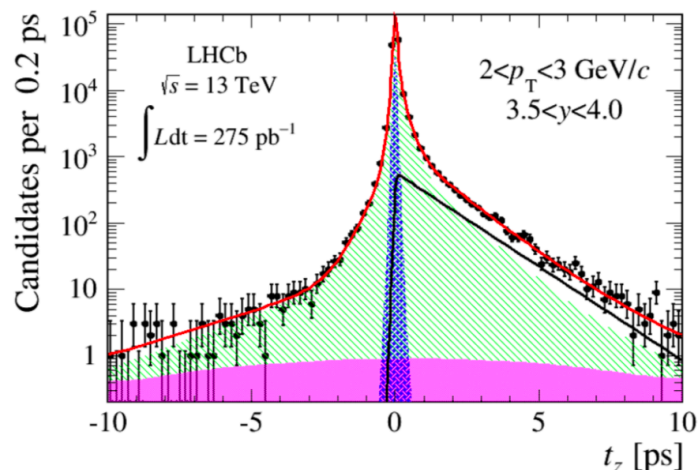
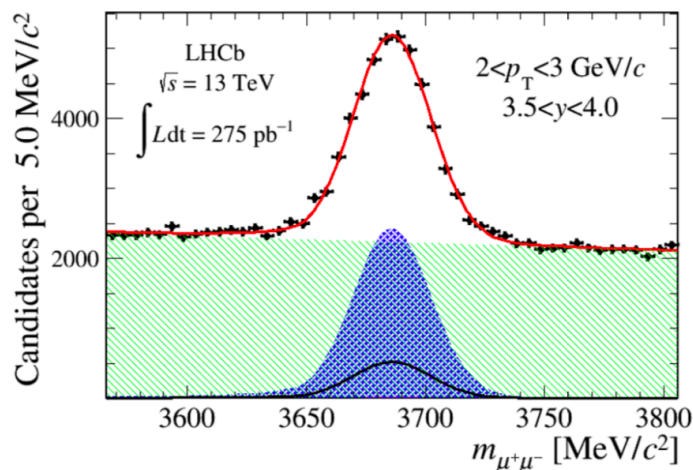
Fig. 1. Feynman diagrams of $\Lambda_c^+ \rightarrow \Xi^{(*)0} K^+$.



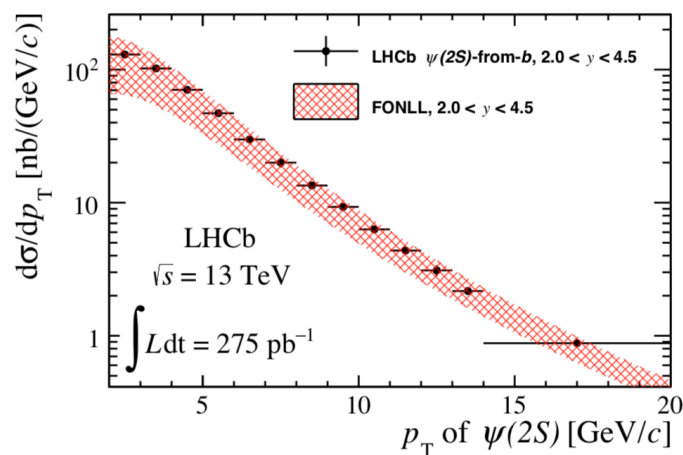
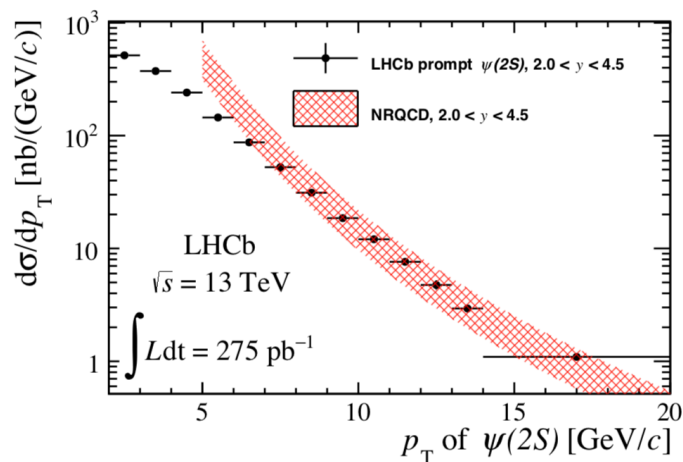
Physics Letters B 783 (2018) 200–206

■ 个人研究兴趣：XYZ, 粲物理

个人研究工作-LHCb实验上 $\psi(2S)$ 截面测量



LHCb-ANA-2016-023



■ 兰州大学粒子物理实验的长远计划-加入LHCb合作组

人才引进-青年研究员、 师资博士后

青年研究员

- 聘为研究员
- 25-30万元年薪（税前）
- 50-150万元科研启动经费
- 周转公寓
- 解决子女入学、入园



师资博士后

- 国际师资博士后
 - 每年20或30万元的资助费
- 国内师资博士后
 - 每年不低于18万元的资助费
 - 周转公寓



- 认可合作组文章
- 5年内没有教学任务
- 硕士生导师 \leq 不错的生源
- 考核通过 \Rightarrow 教授

- 无强制性入门门槛
- 考核通过 \Rightarrow 副教授

感谢大家的支持！