



**UNIVERSITÀ
DI TORINO**



**Istituto Nazionale di Fisica Nucleare
SEZIONE DI TORINO**

Spectroscopy: Introduction

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WIFAI 2024 – Bologna – 13/11/2024

Last Year Spectroscopy Agenda



	Introduction	
	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	14:30 - 14:40
	Theory	<i>Nora Brambilla</i>
15:00	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	14:40 - 15:20
	BESIII	<i>Marco Scodeggio</i>
	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	15:20 - 15:45
	LHCb	<i>Marco Pappagallo</i>
16:00	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	15:45 - 16:10
	ATLAS+CMS	<i>Semen Turchikhin</i>
17:00	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	16:45 - 17:10
	Belle II	<i>Alessandro Boschetti</i>
	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	17:10 - 17:35
	JALAB-EIC	<i>Annalisa D'Angelo</i>
	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	17:35 - 18:00
18:00	Discussion	
	<i>Aula Magna "Adalberto Libera", Dipartimento di Architettura dell'Università Roma Tre</i>	18:00 - 18:30

- Mainly focused on heavy flavor hadrons
- Results from single experiments separately
- Parallelisms and Complementarity

Quite successful and interesting session



This Year Agenda

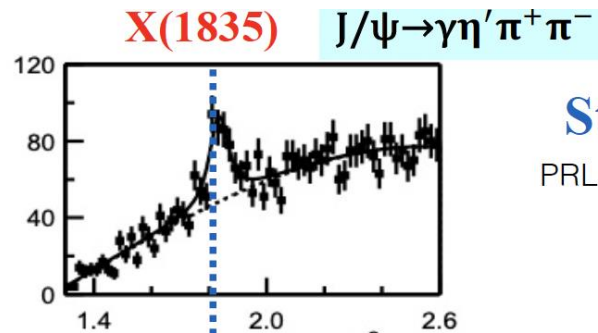


This year we decided to change the structure

Not a “recent results of the last year” but we tried to be more complementary

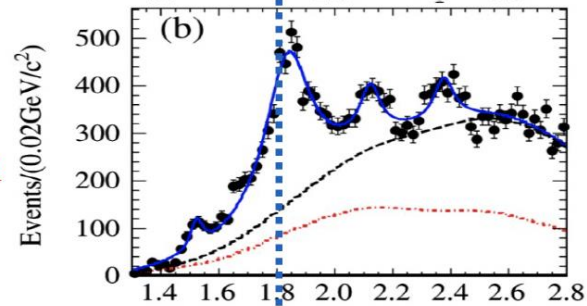
- ✓ More focus on the light sector
- ✓ Space for non-covered and “proximal” topics
- ✓ More transversal and general discussion, less experiment-based
- ✓ News on detectors for the spectroscopy measurements

58 million

**Structure**

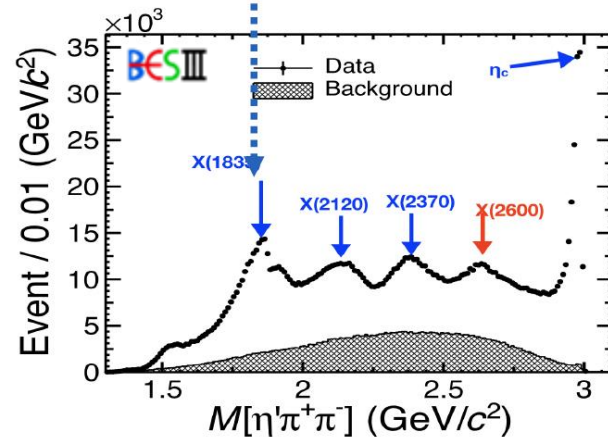
PRL 95(2005) 262001

225 million

**More structures**

PRL 106(2011) 072002

10 billion

**Fine structures**

PRL 129 (2022) 042001

In the light sector not just bump-hunting

The states overlap, interference reigns

Partial Wave Analysis is the way

Need for more and more statistics

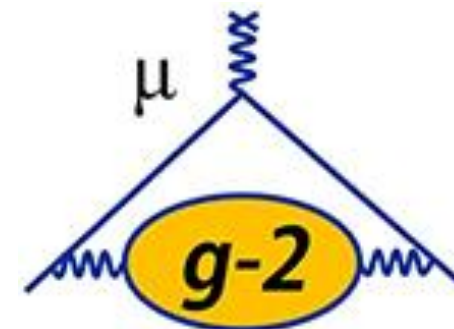


Muon $g-2$ puzzle

10:05

$g-2$

Speaker: Marin Karuza (Istituto Nazionale di Fisica Nucleare)



“Proximal” topic but of significant importance



Going Heavier



11:15

Review on heavy mesons

Speakers: Umberto Tamponi (Univ.Torino), Umberto Tamponi (INFN - Torino)

11:40

Spectroscopy of open flavor hadrons

Speakers: Maurizio Martinelli (EPFL), Maurizio Martinelli (Università degli Studi di Milano Bicocca e INFN)

12:05

Spectroscopy of new heavy baryons

Speaker: Paolo Gandini (Istituto Nazionale di Fisica Nucleare)



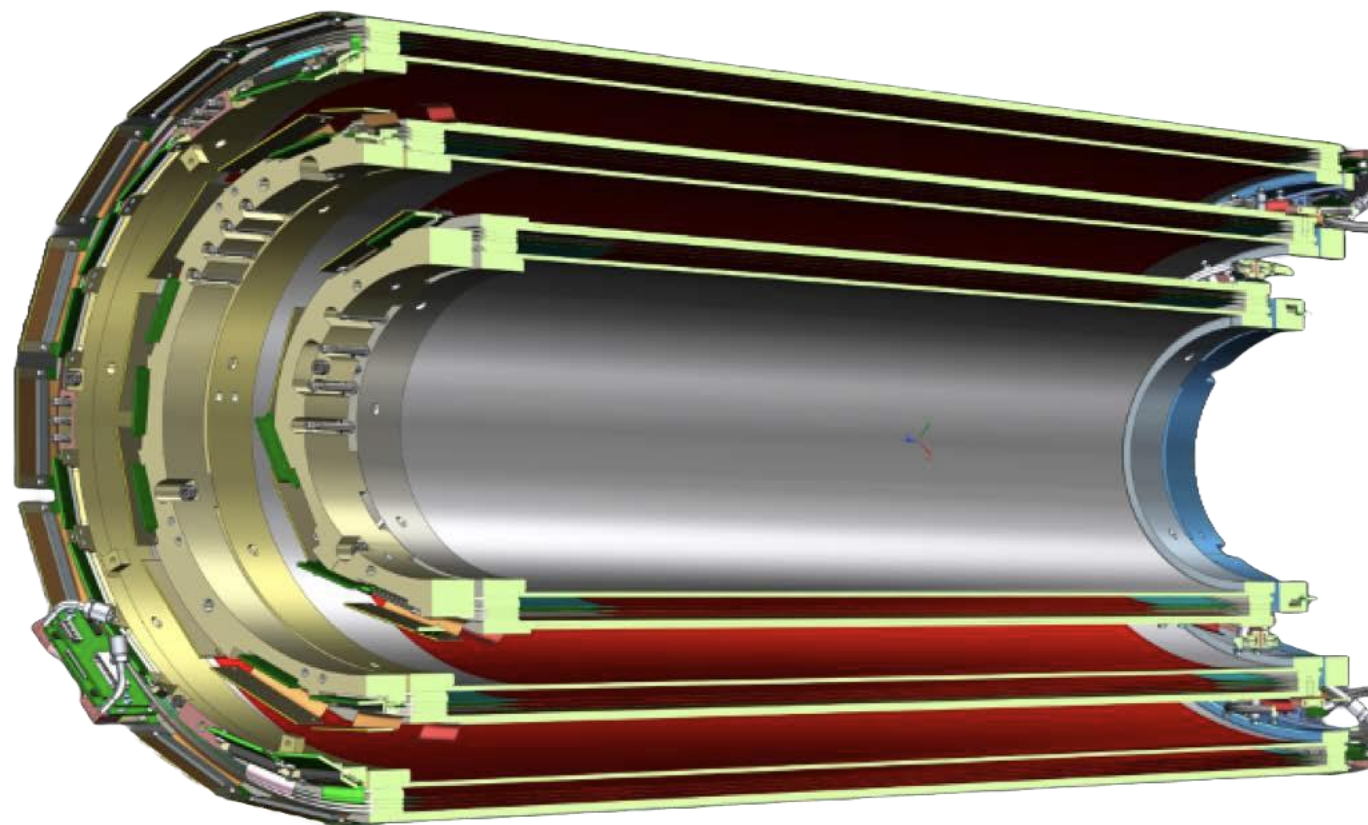
New Detectors for Spectroscopy



12:30

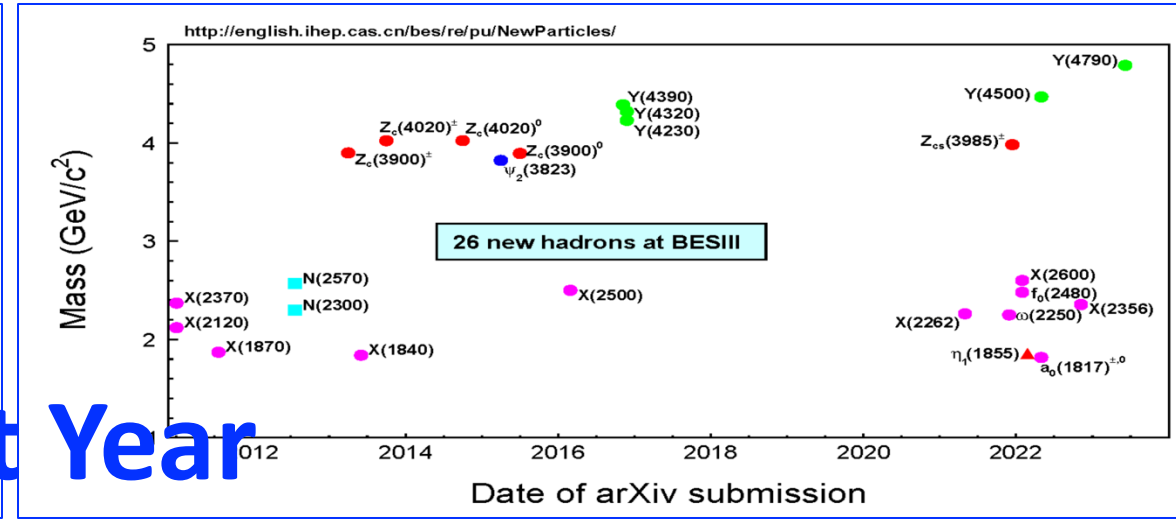
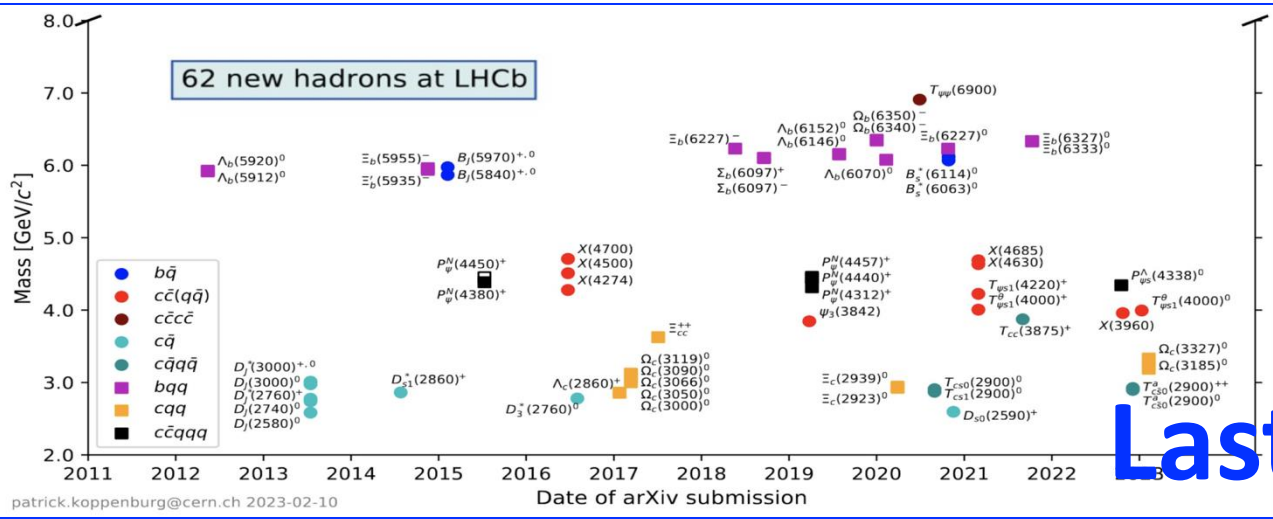
The new inner tracker CGEM-IT of BESIII

Speaker: Gianluigi Cibinetto (Istituto Nazionale di Fisica Nucleare)

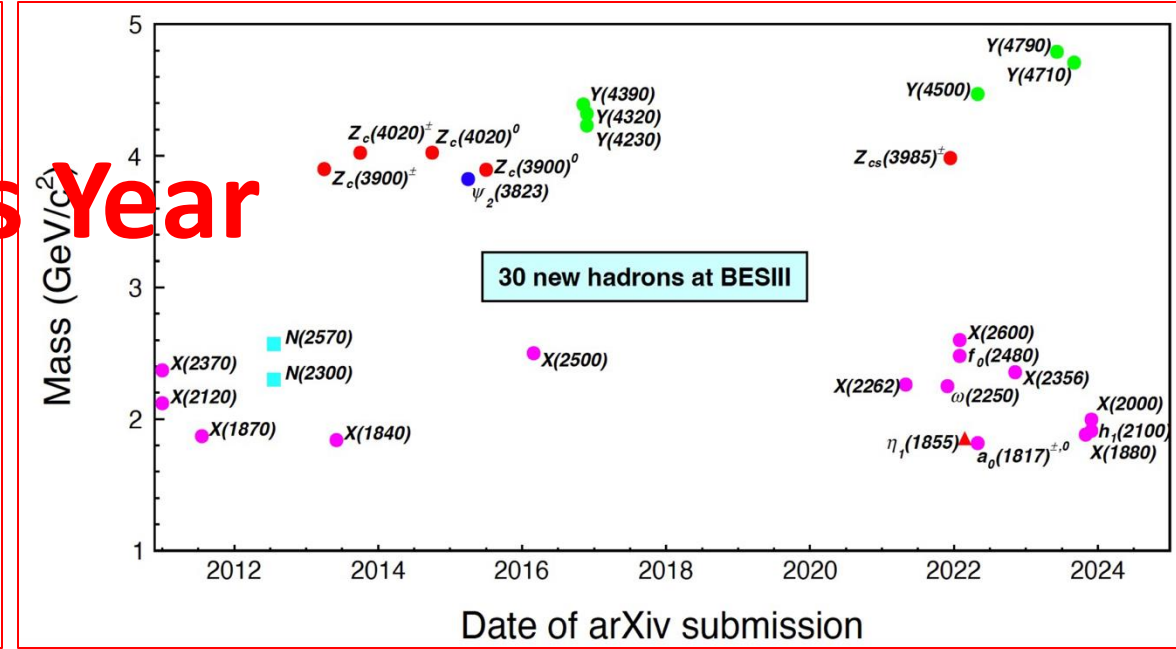
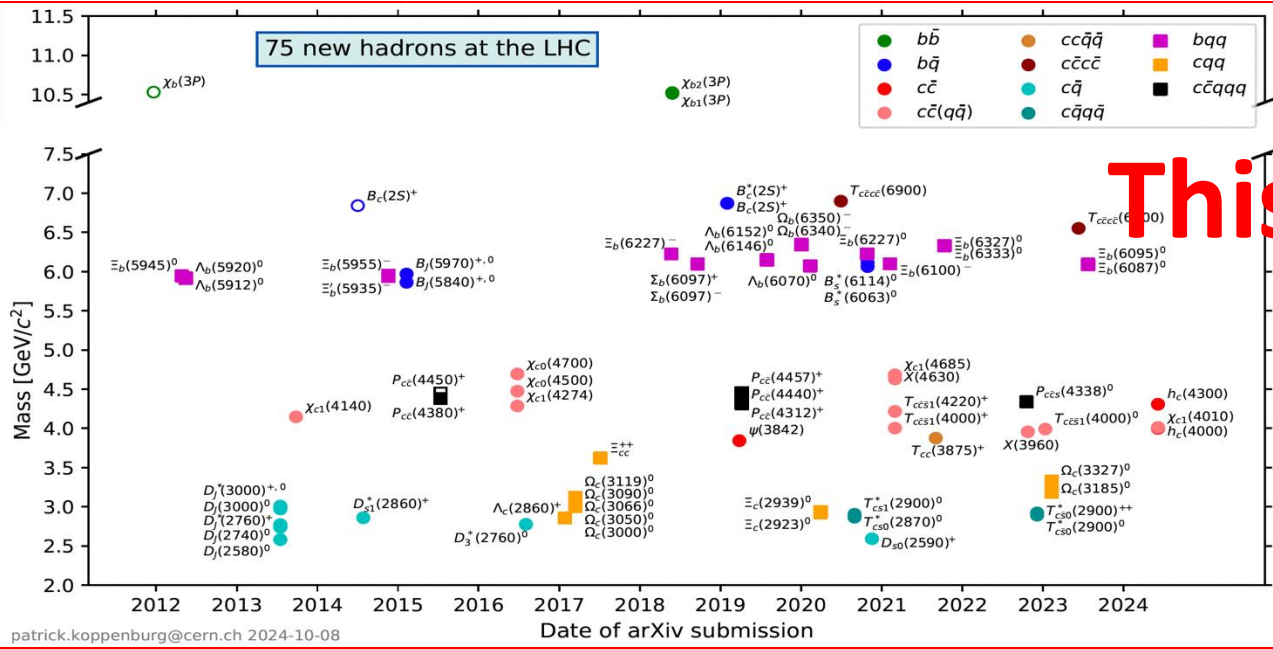




Let's Start!



Last Year



This Year