Introduction to the Comitato Italiano di Fisica session

Francesca De Mori

Università degli Studi di Torino

INFN sez. Torino

Miro

The timetable (today)

Public Seminar. Entangled baryon-antibaryon in J/ψ decays		*Alessio Mangoni*
		14:30 - 15:30

15:00

CIF intro		*Francesca De Mori*
		17:20 - 17:40
Isovector and isoscalar components of the nucleons cross section		*Giulio Mezzadri*
		17:40 - 18:00
Update of psi(2S)-> tau tau		*Isabella Garzia*
		18:00 - 18:20
Inclusive Measurement of hc(1P1) in psi(2S) decay		*Marco Scodeggio*
		18:20 - 18:40
discussion		
		18:40 - 19:00

18:00

19:00

The timetable (tomorrow)

	11:00 - 11:20
Phase measurement in psi(2S)->ppbar	*Marco Destefanis et al.*
	11:20 - 11:40
Phase in Psi'->pipijpsi	*Giulio Mezzadri*
	11:40 - 12:00
Selections optimization for j/psi->K+K- via psi(2S)->pi+pi-j/psi	*Mr Lopresti Edoardo*
	12:00 - 12:20
Update on j/psi->K+K- via psi(2S)->pi+pi-j/psi without PID	*Francesca De Mori*
	12:20 - 12:40
discussion	
	12:40 - 13:00

12:00

12:00

Miro

What is missing?

1. My contribution on
$J/\psi \rightarrow K^+ K^-$ via $\psi(2S) \rightarrow \pi^+ \pi^- J/\psi$ w/o PID

Miro

My plan

♡ I am working on normalized visible energy (evis) fit.
♡ Problems with the dimuon component fitting,

♡ Next weeks I will try to use the official Inclusive MC
   selecting di-muon with MCTruth and use it in spite
   of exclusive MC to model Mcshape.

♡ Evis fitting is good on signal component.

♡ Dimuon shows an asymmetric shape. CrystalBall doesn't
  work better.
♡ Systematics largely improved.

♡ Then I can go again to P&S and afterwards to RC

Miro

What is missing?

1. My contribution $J/\psi \to K^+K^-$ via $\psi(2S) \to \pi^+\pi^- J/\psi$ w/o PID

2. Pentaquark searches in $\Lambda_c \to p\,\phi\,\pi^0$ (Giulio)

Miro

Giulio's Plan

Move soon to RC stage, to state the ownership of the analysis, waiting for the new data, as convenor suggested

Miro

What is missing?

1. My contribution on $J/\psi \rightarrow K^+K^-$ via $\psi(2S) \rightarrow \pi^+\pi^- J/\psi$ w/o PID

2. Pentaquark searches in $\Lambda_c \rightarrow p\,\phi\,\pi^0$ (Giulio)

3. $J/\psi \rightarrow p\bar{p}$ (Marco)

Miro

➢ Review committee is changed→ New referee is Jifeng Hu to replace Dexu(Yadi).
➢ Marco answered to Guanshun questions (Thu, 24 Oct 2019 12:37:31 +0800)
➢ Next step→ Marco would update the memo withour/RC suggestions

Miro

I found the luminosity values you used are not final.
For 2012 data, please check Chinese Physics C Vol. 41,
No. 6 (2017) 063001. For 2015 data, you may refer
http://docbes3.ihep.ac.cn/cgi-bin/DocDB/ShowDocument?docid=653

The values used for the 2012 data are the ones of 2015, which differ at most by
0.001 pb^-1. For the 2015 data, there is a bit more difference and the
systematic errors are now included. Concerning the table, I simply forgot to
update it with the correct values.
The only value which is different from the published ones is the one at the
3085.60 MeV nominal energy. In this case, we followed the suggestion from the
Data Quality Group and we used only one set of 2012 data. For this reason, we
kept the value we received from Bingxin.

For MC generator, you use the modified Babayaga with
help from the original authors. This is fine, however,
did you try more general ways, just to use ConExc or
Phokhara directly, like USTC/HIM's analysis of proton
form factors?
http://indico.ihep.ac.cn/event/7034/session/15/contribution/64/material/slides/1
.pdf

When trying to use ConExc, we found some discrepancy, which was reported by Yadi
during a P&S Workshop.
Concerning Phokhara, I do not know if the J/psi resonance and the beam energy
spread are included as well. Anyway, in this case it would be like starting the
whole analysis again.

In Sec.5, the 1 GeV or 100 MeV radiation is confusing.
If they are not reasonable at all, why do you show the
cases in Fig.3 & 4?

This part was shown for comparison purposes. Now it is removed and the use of
Babayaga is different in the updated memo version.

In Sec.5, the 1 GeV or 100 MeV radiation is confusing.
If they are not reasonable at all, why do you show the
cases in Fig.3 & 4?

This part was shown for comparison purposes. Now it is removed and the use of
Babayaga is different in the updated memo version.

Could you give the ppbar cross sections, at least at
the energies in the continuum, so that they can be
compared with the USTC/HIM analysis?

We checked the rates and we found that they were compatible between each other.
Part of the updated memo is dedicated to this question, from line 368 to line
374.
MAYBE Marco can underline the agreement @ 3.00 GeV

For the center of mass energies, you shift the BEMS
measurements by 0.562 MeV. I'm not sure how sensitive
the phase is with respect to the absolute energy. As
you know the BEMS was not reliable during 2012 run,
why don't you use the J/psi peak as the calibration,
like BAM-268 does?
http://hnbes3.ihep.ac.cn/HyperNews/get/paper268.html

We exploited the work of Yadi and corrected the BEMS energies according to her
findings (https://hnbes3.ihep.ac.cn/HyperNews/get/paper128.html). Starting from
the BEMS measurements, she used muons to calibrate the J/psi peak and she found
the cited discrepancy, which was then added to this work.

L121, the machine resolution is said about 200 keV.
Where did you get the information?

To tell you the truth, you told me this value. I remember that I asked you this information. However, if you think that I should use a different value, it will not be a problem to change it.

Fig.5, the x range is too wide, so that no detail is visible near 180.

The figure was reprocessed together with the simulation output and the binning is finer (see Fig. 4 of the updated memo). If you think that it is still too wide, I will rerun the macro and update the memo accordingly.

For the background studies, most of the 8 processes have corresponding models, so I don't understand why you choose PHSP. Also, are the samples of 10^5 events large enough? What are the equivalent luminosities?

This study was performed again and the correct generators were used. In the updated memo we deliver the upper limits for each channel as well. The updated information are in Sec. 8.

p pbar gamma in Table 11, it is not clear to me if the 0.1-0.2% survived rate is of itself or of the final sample. Did you subtract it?

Now, instead of reporting the number of survived events, we report the upper limits for each channel.

Other small issues:
make clear the BR is for J/psi -> ppbar.
Quite a few cases in the text, for Luminosity, don't need to capitalize the first letter.
L17, mu- should be mu^-
L91, BEMS is actually Beam Energy Measurement System.

They should be all fixed now.

Review committee is changed→ New referee
 is Jifeng Hu to replace Dexu(Yadi).
➤ Marco answered to Guanshun questions
(Thu, 24 Oct 2019 12:37:31 +0800)
➤ Next step→ Marco would update the memo
 withour/RC suggestions

NEW working group formed (stated in CM) because of the suggestion of Fabrizio.
It is intendied toimprove BESIII computing.
Fabrizio is a member.

Evolution of BESIII computing

Areas identified by Fabrizio Bianchi where computing could be improved:

- more centralised MC production
- preselection of data: event tag, skimming
- regular review of resources, required and available

Set up a working group to discuss these topics and make recommendations:

Fabrizio Bianchi, Wolfgang Gradl, Sun Shengsen, Dong Liaoyuan, Liu Beijiang, Zhang Xiaomei, Shi Jingyan
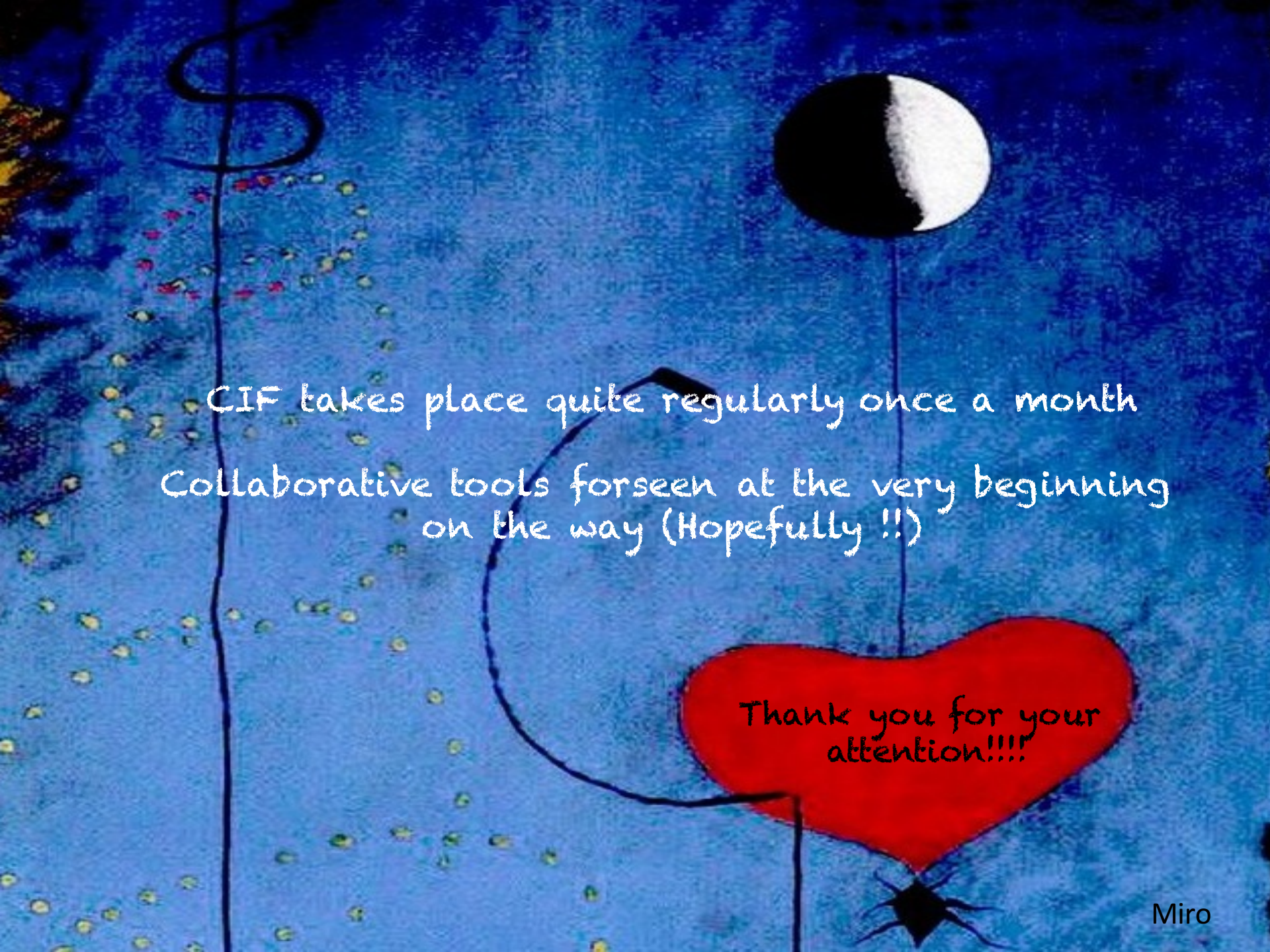
From Wolfgang closeout @IHEP
Last P&S Workshop

BES III JG|U

Miro

Status of the publications

Year	PRL	PRD	PLB	EPJC	CPC	Total
2010	2	1	0	0	1	4
2011	3	8	0	0	0	11
2012	5	10	1	0	1	17
2013	3	20	0	0	2	25
2014	5	13	2	0	0	20
2015	6	24	4	0	2	36
2016	7	10	3	1	2	23
2017	6	22	7	0	3	38
2018	7	23	3	0	3	36
2019	7+	18+	1+	0+	2+	29+
Total	51	149	21	1	16	238

BESIII Physics Journal Publications
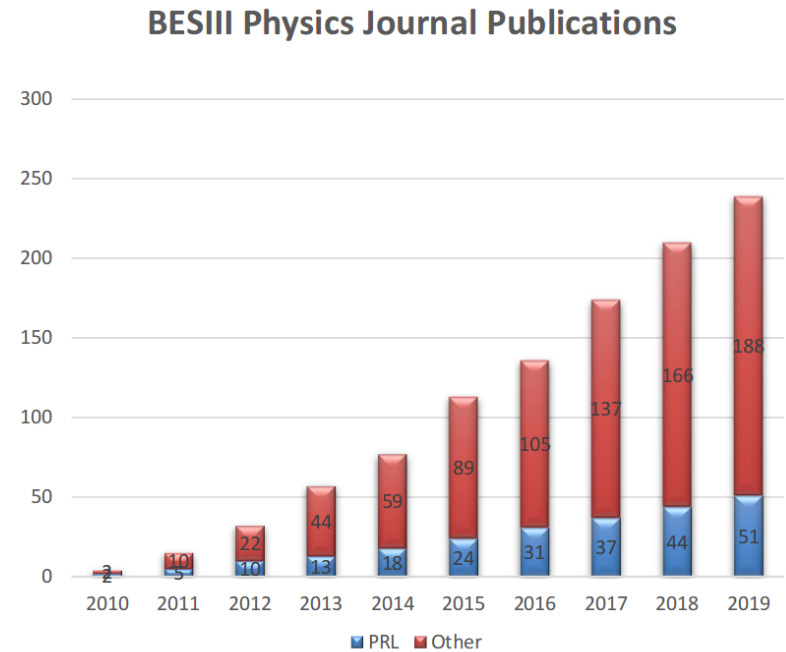
238 papers in 10 years. Roughly 30/40 papers per year since 2015

Already 99 talks assigned for 2019 (still missing PIC2019).
10% performed by italian collaborators

CIF takes place quite regularly once a month

Collaborative tools forseen at the very beginning
on the way (Hopefully !!)

Thank you for your
attention!!!!

Miro