Reference = ABLIKIM 13B; PR D87 012002
Verifier code = BES3

Normally we send all verifications for one experiment to one person, usually the spokesperson or data-analysis co-ordinator, who then distributes them to the appropriate people. Please tell us if we should send the verifications for your experiment to someone else.

PLEASE READ NOW

PLEASE REPLY WITHIN ONE WEEK

Xiao-Rui Lyu

EMAIL: xiaorui@ucas.ac.cn

July 21, 2016

Dear Colleague,

(1) Please check the results of your experiment carefully. They are marked.

(2) Please reply within one week.

(3) Please reply even if everything is correct.

(4) IMPORTANT!! Please tell WHICH papers you are verifying. We have lots of requests out.

(5) Feel free to make comments on our treatment of any of the results (not just yours) you see.

Thank you for helping us make the Review accurate and useful.

Sincerely,

Simon Eidelman
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Prospekt Lavrent'eva 11
RU-630090 Novosibirsk
Russian Federation

EMAIL: simon.eidelman@cern.ch

$c\bar{c}$ MESONS

NODE=MXXX025

NODE=M056

$\chi_{c0}(1P)$

$I^G(J^{PC}) = 0^+(0^{++})$

$\chi_{c0}(1P)$ BRANCHING RATIOS

NODE=M056220

HADRONIC DECAYS

NODE=M056305

$\Gamma(K^+K^-\pi^+\pi^-\pi^0)/\Gamma_{total}$ **Γ_{21}/Γ**

NODE=M056R85
NODE=M056R85

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**8.61±0.13±0.94**	9.0k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$
YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_c^0\gamma$) = (9.68 ± 0.31)%.					

NODE=M056R85;LINKAGE=A

$\Gamma(K_S^0K^\pm\pi^\mp\pi^+\pi^-)/\Gamma_{total}$ **Γ_{22}/Γ**

NODE=M056R86
NODE=M056R86

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**4.22±0.10±0.43**	2.7k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$
YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_c^0\gamma$) = (9.68 ± 0.31)%.					

NODE=M056R86;LINKAGE=A

$\Gamma(\omega K^+K^-)/\Gamma_{total}$ **Γ_{41}/Γ**

NODE=M056R87
NODE=M056R87

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**1.94±0.06±0.20**	1.4k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$
YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_c^0\gamma$) = (9.68 ± 0.31)%.					

NODE=M056R87;LINKAGE=A

$\Gamma(\phi\pi^+\pi^-\pi^0)/\Gamma_{total}$ **Γ_{54}/Γ**

NODE=M056R88
NODE=M056R88

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**1.18±0.07±0.13**	538	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$
YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_c^0\gamma$) = (9.68 ± 0.31)%.					

NODE=M056R88;LINKAGE=A

$\Gamma(\eta_c\pi^+\pi^-)/\Gamma_{total}$ **Γ_{84}/Γ**

NODE=M056R89
NODE=M056R89

	VALUE	CL%	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**$< 7\times10^{-4}$**	90	[1,2] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
YOUR DATA	$<41\times10^{-4}$	90	[1,3] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_c^0$

OCCUR=2

YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_c^0\gamma$) = (9.68 ± 0.31)%.
YOUR NOTE	[2] From the $\eta_c \to K_S^0K^\pm\pi^\mp$ decays.
YOUR NOTE	[3] From the $\eta_c \to K^+K^-\pi^0$ decays.

NODE=M056R89;LINKAGE=A
NODE=M056R89;LINKAGE=B
NODE=M056R89;LINKAGE=C

$\chi_{c0}(1P)$ REFERENCES

NODE=M056

YOUR PAPER ABLIKIM 13B PR D87 012002 M. Ablikim *et al.* (BES III Collab.)

REFID=54877

NODE=M055

$\chi_{c1}(1P)$

$I^G(J^{PC}) = 0^+(1^{++})$

See the Review on "$\psi(2S)$ and χ_c branching ratios" before the $\chi_{c0}(1P)$ Listings.

NODE=M055

$\chi_{c1}(1P)$ BRANCHING RATIOS

NODE=M055225

HADRONIC DECAYS

NODE=M055305

$\Gamma(K^+K^-\pi^+\pi^-\pi^0)/\Gamma_{total}$ **Γ_9/Γ**

NODE=M055R00
NODE=M055R00

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**11.46±0.12±1.29**	12k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$
YOUR NOTE	[1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c1}\gamma$) = (9.2 ± 0.4)%.					

NODE=M055R00;LINKAGE=A

$\Gamma(K^0_S K^\pm \pi^\mp \pi^+ \pi^-)/\Gamma_{total}$ Γ_{10}/Γ

NODE=M055R60
NODE=M055R60

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **7.52±0.11±0.79**	5.1k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c1}\gamma$) = (9.2 ± 0.4)%. NODE=M055R60;LINKAGE=A

$\Gamma(\phi\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{40}/Γ

NODE=M055R62
NODE=M055R62

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **0.75±0.06±0.08**	373	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c1}\gamma$) = (9.2 ± 0.4)%. NODE=M055R62;LINKAGE=A

$\Gamma(\omega K^+ K^-)/\Gamma_{total}$ Γ_{42}/Γ

NODE=M055R61
NODE=M055R61

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **0.78±0.04±0.08**	628	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c1}\gamma$) = (9.2 ± 0.4)%. NODE=M055R61;LINKAGE=A

$\Gamma(\eta_c\pi^+\pi^-)/\Gamma_{total}$ Γ_{75}/Γ

NODE=M055R63
NODE=M055R63

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
YOUR DATA **$<3.2 \times 10^{-3}$**	90	[1,2] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
YOUR DATA $<4.4 \times 10^{-3}$	90	[1,3] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c1}$ OCCUR=2

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c1}\gamma$) = (9.2 ± 0.4)%. NODE=M055R63;LINKAGE=A
YOUR NOTE [2] Using the $\eta_c \to K^0_S K^\pm \pi^\mp$ decays. NODE=M055R63;LINKAGE=B
YOUR NOTE [3] Using the $\eta_c \to K^+ K^- \pi^0$ decays. NODE=M055R63;LINKAGE=C

$\chi_{c1}(1P)$ REFERENCES

NODE=M055

YOUR PAPER ABLIKIM 13B PR D87 012002 M. Ablikim *et al.* (BES III Collab.) REFID=54877

NODE=M057

$\chi_{c2}(1P)$

$I^G(J^{PC}) = 0^+(2^{++})$

See the Review on "$\psi(2S)$ and χ_c branching ratios" before the $\chi_{c0}(1P)$ Listings. NODE=M057

$\chi_{c2}(1P)$ BRANCHING RATIOS

NODE=M057225

HADRONIC DECAYS

NODE=M057305

$\Gamma(K^+K^-\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{15}/Γ

NODE=M057R00
NODE=M057R00

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **11.69±0.13±1.31**	11k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c2}\gamma$) = (8.72 ± 0.34)%. NODE=M057R00;LINKAGE=A

$\Gamma(K^0_S K^\pm \pi^\mp \pi^+ \pi^-)/\Gamma_{total}$ Γ_{16}/Γ

NODE=M057R73
NODE=M057R73

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **7.30±0.11±0.75**	4.5k	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c2}\gamma$) = (8.72 ± 0.34)%. NODE=M057R73;LINKAGE=A

$\Gamma(\omega K^+ K^-)/\Gamma_{total}$ Γ_{22}/Γ

NODE=M057R74
NODE=M057R74

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **0.73±0.04±0.08**	512	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c2}\gamma$) = (8.72 ± 0.34)%. NODE=M057R74;LINKAGE=A

$\Gamma(\phi\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{43}/Γ

NODE=M057R75
NODE=M057R75

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA **0.93±0.06±0.10**	408	[1] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and B($\psi(2S) \to \chi_{c2}\gamma$) = (8.72 ± 0.34)%. NODE=M057R75;LINKAGE=A

$\Gamma(\eta_c(1S)\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{74}/Γ

NODE=M057R76
NODE=M057R76

	VALUE	CL%	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**$<0.54 \times 10^{-2}$**	90	[1,2] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
YOUR DATA	$<1.2 \times 10^{-2}$	90	[1,3] ABLIKIM	13B	BES3	$e^+e^- \to \psi(2S) \to \gamma\chi_{c2}$

OCCUR=2

YOUR NOTE [1] Using 1.06×10^8 $\psi(2S)$ mesons and $B(\psi(2S) \to \chi_{c2}\gamma) = (8.72 \pm 0.34)\%$.
NODE=M057R76;LINKAGE=A

YOUR NOTE [2] From the $\eta_c \to K^0_S K^\pm \pi^\mp$ decays.
NODE=M057R76;LINKAGE=B

YOUR NOTE [3] From the $\eta_c \to K^+ K^- \pi^0$ decays.
NODE=M057R76;LINKAGE=C

$\chi_{c2}(1P)$ REFERENCES

NODE=M057

YOUR PAPER ABLIKIM 13B PR D87 012002 M. Ablikim *et al.* (BES III Collab.)

REFID=54877