

Reference = ABLIKIM 15Q; PR D92 012008
Verifier code = BES3

PLEASE READ NOW

*PLEASE
REPLY
WITHIN
ONE WEEK*

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

Xiao-Rui Lyu

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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,

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$c\bar{c}$ MESONS

NODE=MXXX025

$X(3900)$

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

NODE=M210

Charged $X(3900)$ seen as a peak in the invariant mass distribution of the $J/\psi\pi^\pm$ system by BES III (ABLIKIM 13T) in $e^+e^- \rightarrow \pi^+\pi^- J/\psi$ at c.m. energy of 4.26 GeV and by radiative return from e^+e^- collisions at $\sqrt{s}$ from 9.46 to 10.86 GeV at Belle (LIU 13B). Angular analysis of ABLIKIM 14A and ABLIKIM 15AC favor the $J^P = 1^+$ assignment. Neutral $X(3900)$ seen in the $J/\psi\pi^0$ invariant mass distribution in $e^+e^- \rightarrow \pi^0\pi^0 J/\psi$ at c.m. energies of 4.23, 4.26, and 4.36 GeV by BES III (ABLIKIM 15U) and at 4.17 GeV by XIAO 13A. Peaks in $(D\bar{D}^*)^{0,\pm}$ reported by BES III (ABLIKIM 14A, ABLIKIM 15AB) are assumed to be related.

NODE=M210

$X(3900)$ BRANCHING RATIOS

NODE=M210225

 $\Gamma(J/\psi\eta)/\Gamma_{\text{total}}$
 Γ_7/Γ

VALUE	DOCUMENT ID	TECN	CHG	COMMENT
YOUR DATA not seen	ABLIKIM	15Q	BES3	0 4.0–4.6 $e^+e^- \rightarrow J/\psi\eta\pi^0$

 NODE=M210R04
 NODE=M210R04

 $\Gamma(J/\psi\eta)/\Gamma(J/\psi\pi)$
 Γ_7/Γ_1

VALUE	CL%	DOCUMENT ID	TECN	CHG	COMMENT
YOUR DATA <0.15	90	ABLIKIM	15Q	BES3	0 4.226 $e^+e^- \rightarrow J/\psi\eta\pi^0$

 NODE=M210R05
 NODE=M210R05

• • • We do not use the following data for averages, fits, limits, etc. • • •

YOUR DATA <0.65	90	ABLIKIM	15Q	BES3	0 4.257 $e^+e^- \rightarrow J/\psi\eta\pi^0$
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OCCUR=2

$X(3900)$ REFERENCES

NODE=M210

ABLIKIM	15AB	PRL 115 222002	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	15AC	PR D92 092006	M. Ablikim <i>et al.</i>	(BES III Collab.) JP
ABLIKIM	15Q	PR D92 012008	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	15U	PRL 115 112003	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	14A	PRL 112 022001	M. Ablikim <i>et al.</i>	(BES III Collab.) JP
ABLIKIM	13T	PRL 110 252001	M. Ablikim <i>et al.</i>	(BES III Collab.)
LIU	13B	PRL 110 252002	Z.Q. Liu <i>et al.</i>	(BELLE Collab.)
XIAO	13A	PL B727 366	T. Xiao <i>et al.</i>	(NWES)

 REFID=56954
 REFID=56967
 REFID=56782
 REFID=56786
 REFID=55648
 REFID=55409
 REFID=55410
 REFID=55593
 NODE=M074

$X(4260)$

$$J^G(J^{PC}) = ?^?(1^-)$$

NODE=M074

Seen in radiative return from e^+e^- collisions at $\sqrt{s} = 9.54$ –10.58 GeV by AUBERT,B 05I, HE 06B, and YUAN 07, and in e^+e^- collisions at $\sqrt{s} \approx 4.26$ GeV by COAN 06. Possibly seen by AUBERT 06 in $B^- \rightarrow K^- \pi^+ \pi^- J/\psi$. See also the mini-review under the $X(3872)$. (See the index for the page number.)

$X(4260)$ BRANCHING RATIOS

NODE=M074240

 $\Gamma(J/\psi\eta\pi^0)/\Gamma_{\text{total}}$
 Γ_{13}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
YOUR DATA not seen	ABLIKIM	15Q	BES3 4.0–4.6 $e^+e^- \rightarrow J/\psi\eta\pi^0$

 NODE=M074R28
 NODE=M074R28

$X(4260)$ REFERENCES

NODE=M074

ABLIKIM	15Q	PR D92 012008	M. Ablikim <i>et al.</i>	(BES III Collab.)
YUAN	07	PRL 99 182004	C.Z. Yuan <i>et al.</i>	(BELLE Collab.)
AUBERT	06	PR D73 011101	B. Aubert <i>et al.</i>	(BABAR Collab.)
COAN	06	PRL 96 162003	T.E. Coan <i>et al.</i>	(CLEO Collab.)
HE	06B	PR D74 091104	Q. He <i>et al.</i>	(CLEO Collab.)
AUBERT,B	05I	PRL 95 142001	B. Aubert <i>et al.</i>	(BABAR Collab.)

 REFID=56782
 REFID=51960
 REFID=51017
 REFID=51075
 REFID=51523
 REFID=50776