

Reference = ABLIKIM 16Q; PL B761 98
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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March 20, 2017

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

 $J/\psi(1S)$

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

NODE=MXXX025

NODE=M070

NODE=M070220

NODE=M070W1

NODE=M070W1

→ UNCHECKED ←

NODE=M070W1;LINKAGE=A

NODE=M070W1;LINKAGE=AA

NODE=M070W1;LINKAGE=F

NODE=M070W1;LINKAGE=B

NODE=M070225

NODE=M070225

NODE=M070G2

NODE=M070G2

NODE=M070G2;LINKAGE=S

NODE=M070

$J/\psi(1S)$ PARTIAL WIDTHS

 $\Gamma(e^+e^-)$ Γ_5

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
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5.55±0.14±0.02 OUR EVALUATION

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

YOUR DATA	5.58±0.05±0.08		¹ ABLIKIM	16Q	BES3	3.773 $e^+e^- \rightarrow \mu^+\mu^-\gamma$
	5.71±0.16	13k	² ADAMS	06A	CLEO	$e^+e^- \rightarrow \mu^+\mu^-\gamma$
	5.57±0.19	7.8k	² AUBERT	04	BABR	$e^+e^- \rightarrow \mu^+\mu^-\gamma$
	5.14±0.39		BAI	95B	BES	e^+e^-
	5.36 ^{+0.29} _{-0.28}		³ HSUEH	92	RVUE	See Υ mini-review
	4.72±0.35		ALEXANDER	89	RVUE	See Υ mini-review
	4.4 ±0.6		³ BRANDELIK	79C	DASP	e^+e^-
	4.6 ±0.8		⁴ BALDINI-...	75	FRAG	e^+e^-
	4.8 ±0.6		BOYARSKI	75	MRK1	e^+e^-
	4.6 ±1.0		ESPOSITO	75B	FRAM	e^+e^-

YOUR NOTE

- Using $B(J/\psi \rightarrow \mu^+\mu^-) = (5.973 \pm 0.007 \pm 0.037)\%$ from ABLIKIM 13R.
- Calculated by us from the reported values of $\Gamma(e^+e^-) \times B(\mu^+\mu^-)$ using $B(\mu^+\mu^-) = (5.93 \pm 0.06)\%$.
- From a simultaneous fit to e^+e^- , $\mu^+\mu^-$, and hadronic channels assuming $\Gamma(e^+e^-) = \Gamma(\mu^+\mu^-)$.
- Assuming equal partial widths for e^+e^- and $\mu^+\mu^-$.

$J/\psi(1S) \Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

This combination of a partial width with the partial width into e^+e^- and with the total width is obtained from the integrated cross section into channel i in the e^+e^- annihilation.

 $\Gamma(\mu^+\mu^-) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_7\Gamma_5/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID	TECN	COMMENT
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333 ± 4 OUR AVERAGE

YOUR DATA	333.4± 2.5±4.4		ABLIKIM	16Q	BES3	3.773 $e^+e^- \rightarrow \mu^+\mu^-\gamma$
	331.8± 5.2±6.3		ANASHIN	10	KEDR	3.097 $e^+e^- \rightarrow \mu^+\mu^-$
	338.4± 5.8±7.1	13k	ADAMS	06A	CLEO	$e^+e^- \rightarrow \mu^+\mu^-\gamma$
	330.1± 7.7±7.3	7.8k	AUBERT	04	BABR	$e^+e^- \rightarrow \mu^+\mu^-\gamma$

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

510 ±90		DASP	75	DASP	e^+e^-
380 ±50		¹ ESPOSITO	75B	FRAM	e^+e^-

- Data redundant with branching ratios or partial widths above.

$J/\psi(1S)$ REFERENCES

YOUR PAPER	ABLIKIM	16Q	PL B761 98	M. Ablikim <i>et al.</i>	(BES III Collab.)
	ABLIKIM	13R	PR D88 032007	M. Ablikim <i>et al.</i>	(BES III Collab.)
	ANASHIN	10	PL B685 134	V.V. Anashin <i>et al.</i>	(KEDR Collab.)
	ADAMS	06A	PR D73 051103	G.S. Adams <i>et al.</i>	(CLEO Collab.)
	AUBERT	04	PR D69 011103	B. Aubert <i>et al.</i>	(BABAR Collab.)
	BAI	95B	PL B355 374	J.Z. Bai <i>et al.</i>	(BES Collab.)
	HSUEH	92	PR D45 R2181	S. Hsueh, S. Palestini	(FNAL, TORI)
	ALEXANDER	89	NP B320 45	J.P. Alexander <i>et al.</i>	(LBL, MICH, SLAC)
	BRANDELIK	79C	ZPHY C1 233	R. Brandelik <i>et al.</i>	(DASP Collab.)
	BALDINI-...	75	PL 58B 471	R. Baldini-Celio <i>et al.</i>	(FRAS, ROMA)
	BOYARSKI	75	PRL 34 1357	A.M. Boyarski <i>et al.</i>	(SLAC, LBL) JPC
	DASP	75	PL 56B 491	W. Braunschweig <i>et al.</i>	(DASP Collab.)
	ESPOSITO	75B	LNC 14 73	B. Esposito <i>et al.</i>	(FRAS, NAPL, PADO+)

REFID=57566

REFID=55402

REFID=53220

REFID=51036

REFID=49611

REFID=44434

REFID=41899

REFID=40345

REFID=22114

REFID=22026

REFID=22030

REFID=22036

REFID=22038