Reference = AAIJ 14AW; PRL 113 162001
Verifier code = LHCB

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

Vincenzo Vagnoni

EMAIL: vincenzo.vagnoni@bo.infn.it

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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RU-630090 Novosibirsk
Russian Federation

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CHARMED, STRANGE MESONS ($C = S = \pm 1$)

NODE=MXXX040

$D_s^+ = c\bar{s}$, $D_s^- = \bar{c}s$, similarly for D_s^*'s

NODE=MXXX040

NODE=M148

$D_{s2}^*(2573)$

$I(J^P) = 0(2^+)$

J^P is natural, width and decay modes consistent with 2^+. AAIJ 14BJ confirms $J^P = 2^+$.

NODE=M148

$D_{s2}^*(2573)$ MASS

NODE=M148M

NODE=M148M

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
	2569.1 ±0.8 OUR AVERAGE Error includes scale factor of 2.4. See the ideogram below.					
YOUR DATA	2568.39±0.29±0.26		AAIJ	14AW	LHCB	$B_s^0 \to \overline{D}^0 K^- \pi^+$
	2569.4 ±1.6 ±0.5	82	AAIJ	11A	LHCB	$B_s \to D_{s2}^*(2573) \mu \overline{\nu} X$
	2572.2 ±0.3 ±1.0		AUBERT,BE	06E	BABR	$e^+e^- \to DKX$
	2574.5 ±3.3 ±1.6		ALBRECHT	96	ARG	$e^+e^- \to D^0K^+X$
	2573.2 $^{+1.7}_{-1.6}$ ±0.9	217	KUBOTA	94	CLE2	$e^+e^- \sim$ 10.5 GeV
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
	2570.0 ±4.3	25	[1] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0K^+X$
	2568.6 ±3.2	64	[2] HEISTER	02B	ALEP	$e^+e^- \to D^0K^+X$

[1] Not independent of the mass difference below.

NODE=M148M;LINKAGE=EV

[2] Calculated using m_{D^0}= 1864.5 ± 0.5 MeV and the mass difference below.

NODE=M148M;LINKAGE=HI

$D_{s2}^*(2573)$ WIDTH

NODE=M148W

NODE=M148W

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
	16.9±0.8 OUR AVERAGE					
YOUR DATA	16.9±0.5±0.6		AAIJ	14AW	LHCB	$B_s^0 \to \overline{D}^0 K^- \pi^+$
	12.1±4.5±1.6	82	AAIJ	11A	LHCB	$B_s \to D_{s2}^*(2573) \mu \overline{\nu} X$
	27.1±0.6±5.6		AUBERT,BE	06E	BABR	$e^+e^- \to DKX$
	10.4±8.3±3.0		ALBRECHT	96	ARG	$e^+e^- \to D^0K^+X$
	16 $^{+5}_{-4}$ ±3	217	KUBOTA	94	CLE2	$e^+e^- \sim$ 10.5 GeV
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
	14 $^{+9}_{-6}$	25	[1] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0K^+X$

[1] Systematic errors not estimated.

NODE=M148W;LINKAGE=EV

$D_{s2}^*(2573)$ REFERENCES

NODE=M148

YOUR PAPER	AAIJ	14AW	PRL 113 162001	R. Aaij *et al.*	(LHCb Collab.)	REFID=56105
	AAIJ	14BJ	PRL 113 242002	R. Aaij *et al.*	(LHCb Collab.) JP	REFID=56258
	AAIJ	11A	PL B698 14	R. Aaij *et al.*	(LHCb Collab.)	REFID=16665
	AUBERT,BE	06E	PRL 97 222001	B. Aubert *et al.*	(BABAR Collab.)	REFID=51512
	EVDOKIMOV	04	PRL 93 242001	A.V. Evdokimov *et al.*	(SELEX Collab.)	REFID=50337
	HEISTER	02B	PL B526 34	A. Heister *et al.*	(ALEPH Collab.)	REFID=48562
	ALBRECHT	96	ZPHY C69 405	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=44631
	KUBOTA	94	PRL 72 1972	Y. Kubota *et al.*	(CLEO Collab.)	REFID=43781

NODE=M196

$D_{s1}^*(2860)^\pm$

$I(J^P) = 0(1^-)$

OMITTED FROM SUMMARY TABLE

J^P consitent with 1^- from angular analysis of AAIJ 14AW. Observed by AUBERT,BE 06E and AUBERT 09AR in inclusive production of DK and D^*K in e^+e^- annihilation.

NODE=M196

$D^*_{s1}(2860)^+$ MASS

NODE=M196M

NODE=M196M

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**2859 ±12 ±24**		[1] AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
	2866.1± 1.0± 6.3	36k	[2,3] AAIJ	12AU	LHCB	$pp \to (DK)^+ X$ at 7 TeV
	2862 ± 2 $^{+5}_{-2}$	3122	[3,4] AUBERT	09AR	BABR	$e^+e^- \to D^{(*)} K X$
	2856.6± 1.5± 5.0		[5] AUBERT,BE	06E	BABR	$e^+e^- \to DKX$

YOUR NOTE

[1] Separated from the spin-3 component $D^*_{s3}(2860)^-$ by a fit of the helicity angle of the $\overline{D}^0 K^-$ system, with a statistical significance of the spin-3 and spin-1 components in excess of 10 σ. NODE=M196M;LINKAGE=A

[2] From the combined fit of the $D^+ K^0_S$ and $D^0 K^+$ modes in the model including the $D^*_{s2}(2573)^+$, $D^*_{s1}(2700)^+$ and spin-0 $D^*_{sJ}(2860)^+$. NODE=M196M;LINKAGE=AA

[3] Possible contribution from the $D^*_{s3}(2860)$ state. NODE=M196M;LINKAGE=B

[4] From simultaneous fits to the two DK mass spectra and to the total D^*K mass spectrum. NODE=M196M;LINKAGE=AB

[5] Superseded by AUBERT 09AR. NODE=M196M;LINKAGE=AU

$D^*_{s1}(2860)^+$ WIDTH

NODE=M196W

NODE=M196W

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**159 ±23 ±77**		[1] AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
	69.9± 3.2± 6.6	36k	[2,3] AAIJ	12AU	LHCB	$pp \to (DK)^+ X$ at 7 TeV
	48 ± 3 ± 6	3122	[3,4] AUBERT	09AR	BABR	$e^+e^- \to D^{(*)} K X$
	47 ± 7 ±10		[5] AUBERT,BE	06E	BABR	$e^+e^- \to DKX$

YOUR NOTE

[1] Separated from the spin-3 component $D^*_{s3}(2860)^-$ by a fit of the helicity angle of the $\overline{D}^0 K^-$ system, with a statistical significance of the spin-3 and spin-1 components in excess of 10 σ. NODE=M196W;LINKAGE=A

[2] From the combined fit of the $D^+ K^0_S$ and $D^0 K^+$ modes in the model including the $D^*_{s2}(2573)^+$, $D^*_{s1}(2700)^+$ and spin-0 $D^*_{sJ}(2860)^+$. NODE=M196W;LINKAGE=AA

[3] Possible contribution from the $D^*_{s3}(2860)$ state. NODE=M196W;LINKAGE=B

[4] From simultaneous fits to the two DK mass spectra and to the total D^*K mass spectrum. NODE=M196W;LINKAGE=AB

[5] Superseded by AUBERT 09AR. NODE=M196W;LINKAGE=AU

$D^*_{s1}(2860)^\pm$ REFERENCES

NODE=M196

YOUR PAPER

AAIJ	14AW	PRL 113 162001	R. Aaij *et al.*	(LHCb Collab.) JP	REFID=56105
AAIJ	12AU	JHEP 1210 151	R. Aaij *et al.*	(LHCb Collab.)	REFID=54735
AUBERT	09AR	PR D80 092003	B. Aubert *et al.*	(BABAR Collab.)	REFID=53135
AUBERT,BE	06E	PRL 97 222001	B. Aubert *et al.*	(BABAR Collab.)	REFID=51512

NODE=M226

$D^*_{s3}(2860)^\pm$

$I(J^P) = 0(3^-)$

OMITTED FROM SUMMARY TABLE

J^P consitent with 3^- from angular analysis of AAIJ 14AW. NODE=M226

$D^*_{s3}(2860)^+$ MASS

NODE=M226M

NODE=M226M

	VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**2860.5±2.6±6.5**	[1] AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$

YOUR NOTE

[1] Separated from the spin-1 component $D^*_{s1}(2860)^-$ by a fit of the helicity angle of the $\overline{D}^0 K^-$ system, with a statistical significance of the spin-3 and spin-1 components in excess of 10 σ. NODE=M226M;LINKAGE=A

$D^*_{s3}(2860)^+$ WIDTH

NODE=M226W

NODE=M226W

	VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**53±7±7**	[1] AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$

YOUR NOTE [1] Separated from the spin-1 component $D^*_{s1}(2860)^-$ by a fit of the helicity angle of the $\overline{D}^0 K^-$ system, with a statistical significance of the spin-3 and spin-1 components in excess of 10 σ.

NODE=M226W;LINKAGE=A

$D^*_{s3}(2860)^{\pm}$ REFERENCES

NODE=M226

YOUR PAPER AAIJ 14AW PRL 113 162001 R. Aaij *et al.* (LHCb Collab.) JP

REFID=56105