NODE=M148

$D^*_{s2}(2573)$

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

$D^*_{s2}(2573)$ MASS

NODE=M148M

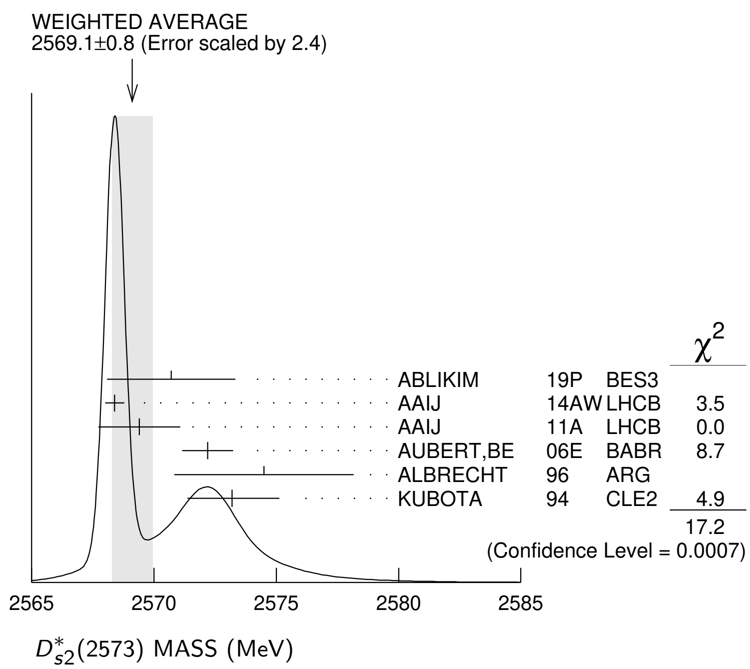
NODE=M148M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2569.1 ±0.8 OUR AVERAGE		Error includes scale factor of 2.4. See the ideogram below.			
2570.7 ±2.0 ±1.7	62	[1] ABLIKIM	19P	BES3	4.6 $e^+ e^- \to D^+_s \overline{D}^0 K^-$
2568.39±0.29±0.26		AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$
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	$e^+ e^- \to D K X$
2574.5 ±3.3 ±1.6		ALBRECHT	96	ARG	$e^+ e^- \to D^0 K^+ X$
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	[2] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0 K^+ X$
2568.6 ±3.2	64	[3] HEISTER	02B	ALEP	$e^+ e^- \to D^0 K^+ X$

[1] From a fit of the D^+_s recoil mass distribution. NODE=M148M;LINKAGE=A

[2] Not independent of the mass difference below. NODE=M148M;LINKAGE=EV

[3] Calculated using m_{D^0}= 1864.5 ± 0.5 MeV and the mass difference below. NODE=M148M;LINKAGE=HI



$m_{D^*_{s2}(2573)} - m_{D^0}$

NODE=M148DM

NODE=M148DM

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
704 ±3 ±1	64	HEISTER	02B	ALEP	$e^+ e^- \to D^0 K^+ X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
705.4±4.3	25	[1] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0 K^+ X$

[1] Systematic errors not estimated. NODE=M148DM;LINKAGE=EV

$D^*_{s2}(2573)$ WIDTH

NODE=M148W

NODE=M148W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
16.9±0.7 OUR AVERAGE					
17.2±3.6±1.1	62	[1] ABLIKIM	19P	BES3	4.6 $e^+ e^- \to D^+_s \overline{D}^0 K^-$
16.9±0.5±0.6		AAIJ	14AW	LHCB	$B^0_s \to \overline{D}^0 K^- \pi^+$
12.1±4.5±1.6	82	AAIJ	11A	LHCB	$B_s \to D^*_{s2}(2573) \mu \overline{\nu} X$

$27.1 \pm 0.6 \pm 5.6$		AUBERT,BE	06E	BABR	$e^+ e^- \rightarrow D K X$
$10.4 \pm 8.3 \pm 3.0$		ALBRECHT	96	ARG	$e^+ e^- \rightarrow D^0 K^+ X$
$16 \ {}^{+5}_{-4} \ \pm 3$	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	[2] EVDOKIMOV	04	SELX	$600\ \Sigma^- A \rightarrow D^0 K^+ X$

[1] From a fit of the D_s^+ recoil mass distribution. NODE=M148W;LINKAGE=A

[2] Systematic errors not estimated. NODE=M148W;LINKAGE=EV

$D_{s2}^*(2573)^+$ DECAY MODES

NODE=M148215;NODE=M148

$D_{s2}^*(2573)^-$ modes are charge conjugates of the modes below.

NODE=M148

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$D^0 K^+$	(37 ± 6) %	DESIG=1
Γ_2	$D^*(2007)^0 K^+$	not seen	DESIG=2;OUR EVAL;→ UNCHECKED ←
Γ_3	$D^+ K_S^0$	seen	DESIG=4;OUR EVAL;→ UNCHECKED ←
Γ_4	$D^{*+} K_S^0$	seen	DESIG=5;OUR EVAL;→ UNCHECKED ←

$D_{s2}^*(2573)^+$ BRANCHING RATIOS

NODE=M148220

$\Gamma(D^0 K^+)/\Gamma_{total}$ Γ_1/Γ

NODE=M148R2
NODE=M148R2

VALUE (%)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
$37.4 \pm 3.1 \pm 4.6$		[1] ABLIKIM	24BN	BES3		$e^+ e^- \rightarrow D_s^+ D_{s2}^*(2573)^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
seen	217	KUBOTA	94	CLE2	$\pm$	$e^+ e^- \sim$ 10.5 GeV

[1] Determined as ratio of exclusive $e^+ e^- \rightarrow D_s^+ [\overline{D}^0 K^-]$ and inclusive $e^+ e^- \rightarrow D_s^+ X$ measurements. NODE=M148R2;LINKAGE=A

$\Gamma(D^*(2007)^0 K^+)/\Gamma(D^0 K^+)$ Γ_2/Γ_1

NODE=M148R1
NODE=M148R1

VALUE	*CL%*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
<0.33	90	KUBOTA	94	CLE2	$+$	$e^+ e^- \sim$ 10.5 GeV

$\Gamma(D^+ K_S^0)/\Gamma(D^0 K^+)$ Γ_3/Γ_1

NODE=M148R01
NODE=M148R01

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
$0.49 \pm 0.10 \pm 0.02$	GAO	23	BELL	$e^+ e^-$ at 10.52 GeV

$\Gamma(D^{*+} K_S^0)/\Gamma(D^+ K_S^0)$ Γ_4/Γ_3

NODE=M148R00
NODE=M148R00

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$0.044 \pm 0.005 \pm 0.011$	2000	[1] AAIJ	16AW	LHCB	$pp \rightarrow D^{*+} K_S^0 X$ at 7, 8 TeV

[1] First observation of the $D_{s2}^*(2573)^+ \rightarrow D^{*+} K_S^0$ decay with a significance of 6.9 σ. NODE=M148R00;LINKAGE=A

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

NODE=M148

ABLIKIM	24BN	PRL 133 171903	M. Ablikim *et al.*	(BESIII Collab.)	REFID=63015
GAO	23	PR D108 112015	B.S. Gao *et al.*	(BELLE Collab.)	REFID=62519
ABLIKIM	19P	CP C43 031001	M. Ablikim *et al.*	(BESIII Collab.)	REFID=59617
AAIJ	16AW	JHEP 1602 133	R. Aaij *et al.*	(LHCb Collab.)	REFID=60464
AAIJ	14AW	PRL 113 162001	R. Aaij *et al.*	(LHCb Collab.) JP	REFID=56105
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