

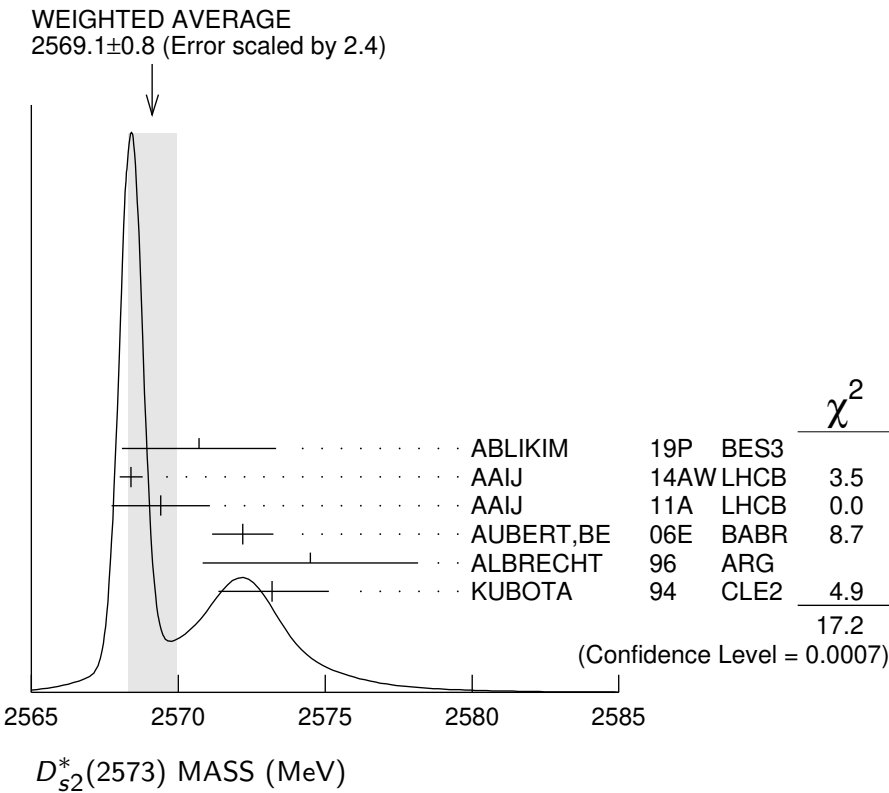
$D_{s2}^*(2573)$

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

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

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 ⁻ → D _s ⁺ $\overline{D}^0$ K ⁻
2568.39 ± 0.29 ± 0.26		AAIJ	14AW LHCb	B _s ⁰ → $\overline{D}^0$ K ⁻ π ⁺
2569.4 ± 1.6 ± 0.5	82	AAIJ	11A LHCb	B _s → D _{s2} [*] (2573) μ ν̄ X
2572.2 ± 0.3 ± 1.0		AUBERT, BE	06E BABR	e ⁺ e ⁻ → D K X
2574.5 ± 3.3 ± 1.6		ALBRECHT	96 ARG	e ⁺ e ⁻ → D ⁰ K ⁺ X
2573.2 ^{+1.7} _{-1.6} ± 0.9	217	KUBOTA	94 CLE2	e ⁺ e ⁻ ~ 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 Σ ⁻ A → D ⁰ K ⁺ X
2568.6 ± 3.2	64	³ HEISTER	02B ALEP	e ⁺ e ⁻ → D ⁰ K ⁺ X

¹ From a fit of the D_s⁺ recoil mass distribution.
² Not independent of the mass difference below.
³ Calculated using m_{D⁰} = 1864.5 ± 0.5 MeV and the mass difference below.



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

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

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

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 $e^+e^- \rightarrow D_s^+ \bar{D}^0 K^-$
16.9 ±0.5 ±0.6		AAIJ	14AW LHCb	$B_s^0 \rightarrow \bar{D}^0 K^- \pi^+$
12.1 ±4.5 ±1.6	82	AAIJ	11A LHCb	$B_s \rightarrow D_{s2}^*(2573) \mu \bar{\nu} X$
27.1 ±0.6 ±5.6		AUBERT, BE	06E BABR	$e^+e^- \rightarrow D K X$
10.4 ±8.3 ±3.0		ALBRECHT	96 ARG	$e^+e^- \rightarrow D^0 K^+ X$
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	² EVDOKIMOV	04 SELX	600 $\Sigma^- A \rightarrow D^0 K^+ X$
¹ From a fit of the D_s^+ recoil mass distribution.				
² Systematic errors not estimated.				

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

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

Mode	Fraction (Γ_i/Γ)
Γ_1 $D^0 K^+$	(37 ±6) %
Γ_2 $D^*(2007)^0 K^+$	not seen
Γ_3 $D^+ K_S^0$	seen
Γ_4 $D^{*+} K_S^0$	seen

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

$\Gamma(D^0 K^+)/\Gamma_{\text{total}}$						Γ_1/Γ
VALUE (%)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT	
37.4±3.1±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	±	$e^+ e^- \sim 10.5$ GeV	
¹ Determined as ratio of exclusive $e^+ e^- \rightarrow D_s^+ [\bar{D}^0 K^-]$ and inclusive $e^+ e^- \rightarrow D_s^+ X$ measurements.						

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

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

ABLIKIM	24BN	PRL 133 171903	M. Ablikim <i>et al.</i>	(BESIII Collab.)
GAO	23	PR D108 112015	B.S. Gao <i>et al.</i>	(BELLE Collab.)
ABLIKIM	19P	CP C43 031001	M. Ablikim <i>et al.</i>	(BESIII Collab.)
AAIJ	16AW	JHEP 1602 133	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14AW	PRL 113 162001	R. Aaij <i>et al.</i>	(LHCb Collab.) JP
AAIJ	11A	PL B698 14	R. Aaij <i>et al.</i>	(LHCb Collab.)
AUBERT,BE	06E	PRL 97 222001	B. Aubert <i>et al.</i>	(BABAR Collab.)
EVDOKIMOV	04	PRL 93 242001	A.V. Evdokimov <i>et al.</i>	(SELEX Collab.)
HEISTER	02B	PL B526 34	A. Heister <i>et al.</i>	(ALEPH Collab.)
ALBRECHT	96	ZPHY C69 405	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
KUBOTA	94	PRL 72 1972	Y. Kubota <i>et al.</i>	(CLEO Collab.)