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

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

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

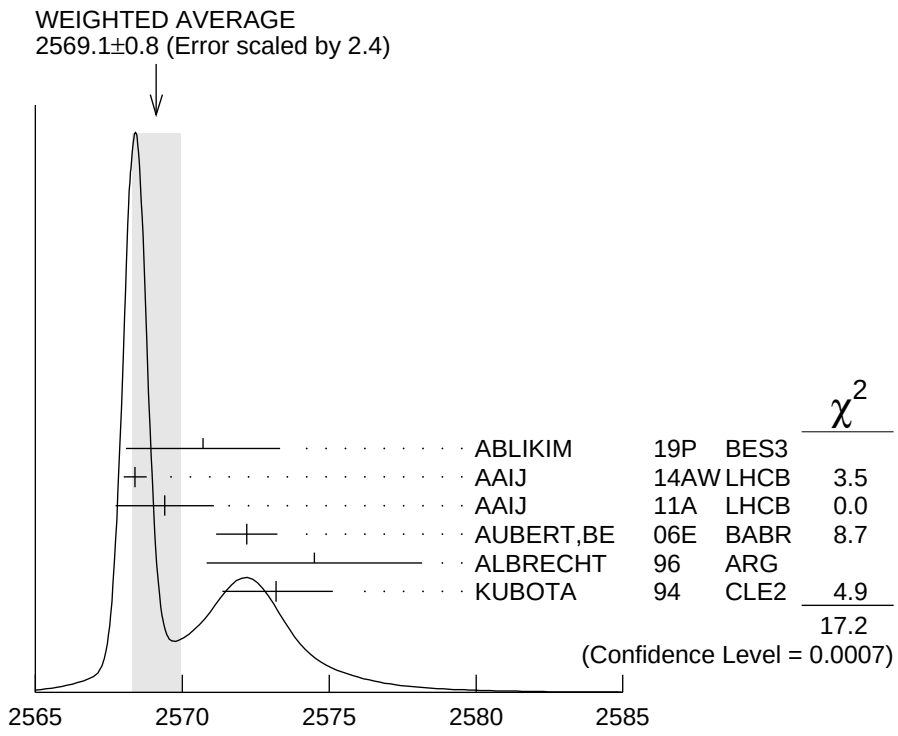
$D^*_{s2}(2573)$ MASS

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 $e^+e^- \to D_s^+ \overline{D}^0 K^-$
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	[2] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0K^+X$
2568.6 ±3.2	64	[3] HEISTER	02B	ALEP	$e^+e^- \to D^0K^+X$

[1] From a fit of the D_s^+ recoil mass distribution .

[2] Not independent of the mass difference below.

[3] Calculated using m_{D^0} = 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	$e^+e^- \to D^0K^+X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
705.4±4.3	25	[1] EVDOKIMOV	04	SELX	600 $\Sigma^- A \to D^0K^+X$

[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 $e^+e^- \to D_s^+\overline{D}^0K^-$
16.9±0.5±0.6		AAIJ	14AW	LHCB	$B_s^0 \to \overline{D}^0K^-\pi^+$
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	$e^+e^- \to D^0K^+X$
$16\ ^{+5}_{-4}\ \pm3$	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 $\Sigma^- A \to D^0K^+X$

[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^0K^+	seen
Γ_2	$D^*(2007)^0K^+$	not seen

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

$\Gamma(D^0K^+)/\Gamma_{total}$ Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
seen	217	KUBOTA	94	CLE2	±	$e^+e^-\sim$ 10.5 GeV

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

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

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

ABLIKIM	19P	CP C43 031001	M. Ablikim *et al.*	(BESIII Collab.)
AAIJ	14AW	PRL 113 162001	R. Aaij *et al.*	(LHCb Collab.) JP
AAIJ	11A	PL B698 14	R. Aaij *et al.*	(LHCb Collab.)
AUBERT,BE	06E	PRL 97 222001	B. Aubert *et al.*	(BABAR Collab.)
EVDOKIMOV	04	PRL 93 242001	A.V. Evdokimov *et al.*	(SELEX Collab.)
HEISTER	02B	PL B526 34	A. Heister *et al.*	(ALEPH Collab.)
ALBRECHT	96	ZPHY C69 405	H. Albrecht *et al.*	(ARGUS Collab.)
KUBOTA	94	PRL 72 1972	Y. Kubota *et al.*	(CLEO Collab.)