$D^*_{s0}(2317)^\pm$

$I(J^P) = 0(0^+)$
J, P need confirmation.

AUBERT 06P does not observe neutral and doubly charged partners of the $D^*_{s0}(2317)^+$.

$D^*_{s0}(2317)^\pm$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2317.8±0.6 OUR FIT Error includes scale factor of 1.1.					
2318.0±1.0 OUR AVERAGE Error includes scale factor of 1.4.					
2319.6±0.2±1.4	3180	AUBERT	06P	BABR	10.6 $e^+e^- \to D^+_s \pi^0 X$
2317.3±0.4±0.8	1022	[1] AUBERT	04E	BABR	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2317.2±1.3	88	[2] AUBERT,B	04S	BABR	$B \to D^{(*)}_{s0}(2317)^+ \overline{D}^{(*)}$
2317.2±0.5±0.9	761	[3] MIKAMI	04	BELL	10.6 e^+e^-
2316.8±0.4±3.0	1267 ± 53	[3,4] AUBERT	03G	BABR	10.6 e^+e^-
2317.6±1.3	273 ± 33	[3,5] AUBERT	03G	BABR	10.6 e^+e^-
2319.8±2.1±2.0	24	[3] KROKOVNY	03B	BELL	10.6 e^+e^-

[1] Supersedes AUBERT 03G.
[2] Systematic errors not evaluated.
[3] Not independent of the corresponding $m_{D^*_{s0}(2317)} - m_{D_s}$.
[4] From $D^+_s \to K^+K^-\pi^+$ decay.
[5] From $D^+_s \to K^+K^-\pi^+\pi^0$ decay.

$m_{D^*_{s0}(2317)^\pm} - m_{D^\pm_s}$

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
349.3±0.6 OUR FIT Error includes scale factor of 1.1.					
349.2±0.7 OUR AVERAGE					
348.7±0.5±0.7	761	MIKAMI	04	BELL	10.6 e^+e^-
350.0±1.2±1.0	135	BESSON	03	CLE2	10.6 e^+e^-
351.3±2.1±1.9	24	[6] KROKOVNY	03B	BELL	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
349.6±0.4±3.0	1267	[7,8] AUBERT	03G	BABR	10.6 e^+e^-
350.2±1.3	273	[9,10] AUBERT	03G	BABR	10.6 e^+e^-

[6] Recalculated by us using $m_{D^+_s} = 1968.5 \pm 0.6$ MeV.
[7] From $D^+_s \to K^+K^-\pi^+$ decay.
[8] Recalculated by us using $m_{D^+_s} = 1967.20 \pm 0.03$ MeV.
[9] From $D^+_s \to K^+K^-\pi^+\pi^0$ decay.
[10] Recalculated by us using $m_{D^+_s} = 1967.4 \pm 0.2$ MeV. Systematic errors not estimated.

$D^*_{s0}(2317)^\pm$ WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
< 3.8	95	3180	AUBERT	06P	BABR	10.6 $e^+e^- \to D^+_s \pi^0 X$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
< 4.6	90	761	MIKAMI	04	BELL	10.6 e^+e^-
<10			AUBERT	03G	BABR	10.6 e^+e^-
< 7	90	135	BESSON	03	CLE2	10.6 e^+e^-

$D^*_{s0}(2317)^\pm$ DECAY MODES

$D^*_{s0}(2317)^-$ modes are charge conjugates of modes below.

	Mode	Fraction (Γ_i/Γ)
Γ_1	$D^+_s \pi^0$	seen
Γ_2	$D^+_s \gamma$	
Γ_3	$D^*_s(2112)^+ \gamma$	
Γ_4	$D^+_s \gamma\gamma$	
Γ_5	$D^*_s(2112)^+ \pi^0$	
Γ_6	$D^+_s \pi^+\pi^-$	
Γ_7	$D^+_s \pi^0\pi^0$	not seen

$D^*_{s0}(2317)^\pm$ BRANCHING RATIOS

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

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	1540 ± 62	AUBERT	03G	BABR	10.6 e^+e^-

$\Gamma(D^+_s \gamma)/\Gamma(D^+_s \pi^0)$ — Γ_2/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.05	90	MIKAMI	04	BELL	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.14	95	AUBERT	06P	BABR	10.6 e^+e^-
<0.052	90	BESSON	03	CLE2	10.6 e^+e^-

$\Gamma(D^*_s(2112)^+ \gamma)/\Gamma(D^+_s \pi^0)$ — Γ_3/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.059	90	BESSON	03	CLE2	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.16	95	AUBERT	06P	BABR	10.6 e^+e^-
<0.18	90	MIKAMI	04	BELL	10.6 e^+e^-

$\Gamma(D_s^+\gamma\gamma)/\Gamma(D_s^+\pi^0)$ — Γ_4/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.18	95	AUBERT	06P	BABR	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
not seen		AUBERT	03G	BABR	10.6 e^+e^-

$\Gamma(D_s^*(2112)^+\pi^0)/\Gamma(D_s^+\pi^0)$ — Γ_5/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.11	90	BESSON	03	CLE2	10.6 e^+e^-

$\Gamma(D_s^+\pi^+\pi^-)/\Gamma(D_s^+\pi^0)$ — Γ_6/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.004	90	MIKAMI	04	BELL	10.6 e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.005	95	AUBERT	06P	BABR	10.6 e^+e^-
<0.019	90	BESSON	03	CLE2	10.6 e^+e^-

$\Gamma(D_s^+\pi^0\pi^0)/\Gamma(D_s^+\pi^0)$ — Γ_7/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.25	95	AUBERT	06P	BABR	10.6 e^+e^-

$D_{s0}^*(2317)^\pm$ REFERENCES

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