NODE=M172

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

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

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

NODE=M172

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

NODE=M172205

NODE=M172M

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 $e^+e^- \rightarrow D_s^+\pi^0 X$
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	$B \rightarrow D_{s0}^{(*)}(2317)^+ \overline{D}^{(*)}$
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^-

OCCUR=2

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

NODE=M172M;LINKAGE=AU
NODE=M172M;LINKAGE=AB
NODE=M172M;LINKAGE=B1
NODE=M172M;LINKAGE=A1
NODE=M172M;LINKAGE=A2

$m_{D_{s0}^{*}(2317)^{\pm}} - m_{D_s^{\pm}}$

NODE=M172207

NODE=M172DM

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^-

OCCUR=2

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

NODE=M172DM;LINKAGE=K3
NODE=M172DM;LINKAGE=A1
NODE=M172DM;LINKAGE=C1
NODE=M172DM;LINKAGE=A2
NODE=M172DM;LINKAGE=C2

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

NODE=M172210

NODE=M172W

VALUE (MeV)	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
< 3.8	95	3180	AUBERT	06P	BABR	10.6 $e^+e^- \rightarrow D_s^+\pi^0 X$
• • • 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

NODE=M172215;NODE=M172

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

NODE=M172

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$D_s^+\pi^0$	seen	DESIG=1
Γ_2	$D_s^+\gamma$		DESIG=2
Γ_3	$D_s^*(2112)^+\gamma$		DESIG=3
Γ_4	$D_s^+\gamma\gamma$		DESIG=4
Γ_5	$D_s^*(2112)^+\pi^0$		DESIG=5
Γ_6	$D_s^+\pi^+\pi^-$		DESIG=6
Γ_7	$D_s^+\pi^0\pi^0$	not seen	DESIG=7;OUR EVAL;→ NOT CHECKED ←

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

NODE=M172220

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

NODE=M172R1
NODE=M172R1

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

NODE=M172R5
NODE=M172R5

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

NODE=M172R6
NODE=M172R6

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

NODE=M172R7
NODE=M172R7

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

NODE=M172R8
NODE=M172R8

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

NODE=M172R9
NODE=M172R9

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

NODE=M172R10
NODE=M172R10

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

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

NODE=M172

AUBERT	06P	PR D74 032007	B. Aubert *et al.*	(BABAR Collab.)	REFID=51144
AUBERT	04E	PR D69 031101R	B. Aubert *et al.*	(BABAR Collab.)	REFID=49747
AUBERT,B	04S	PRL 93 181801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50195
MIKAMI	04	PRL 92 012002	Y. Mikami *et al.*	(BELLE Collab.)	REFID=49629
AUBERT	03G	PRL 90 242001	B. Aubert *et al.*	(BaBar Collab.)	REFID=49417
BESSON	03	PR D68 032002	D. Besson *et al.*	(CLEO Collab.)	REFID=49583
KROKOVNY	03B	PRL 91 262002	P. Krokovny *et al.*	(BELLE Collab.)	REFID=49615

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FAESSLER	07	PR D76 014003	A. Faessler *et al.*		REFID=51892
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NIELSEN	06	PL B634 35	M. Nielsen		REFID=51182
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VANBEVEREN	06B	PRL 97 202001	E. van Beberen, G. Rupp		REFID=51525
VIJANDE	06	PR D73 034002	J. Vijande, F. Fernandez, A. Valcarce		REFID=51052
WANG	06	PR D73 094020	Z.-G. Wang, S.-L. Wan		REFID=51194
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BICUDO	05	NP A748 537	P. Bicudo		REFID=50455
BRACCO	05	PL B624 217	M.E. Bracco, A. Lozea, R.D. Matheus		REFID=50784
CLOSE	05C	PR D72 094004	F.E. Close, E.S. Swanson	(OXFTP)	REFID=50962
COLANGELO	05	PR D72 074004	P. Colangelo, F. De Fazio, A. Ozpineci		REFID=50839
DMITRASINO...	05	PRL 94 162002	V. Dmitrasinovic		REFID=50791
GODFREY	05	PR D72 054029	S. Godfrey		REFID=50794
KIM	05A	PR D72 074012	H. Kim, Y. Oh		REFID=50841
MAIANI	05	PR D71 014028	L. Maiani *et al.*		REFID=50460
ZHANG	05C	PR D72 017902	A. Zhang		REFID=50821
BROWDER	04	PL B578 365	T.E. Browder, S. Pakvasa, A.A. Petrov		REFID=49671
CHEN	04A	PR D69 054002	C.-H. Chen		REFID=50180
CHEN	04C	PRL 93 232001	Y.-Q. Chen, X.-Q. Li		REFID=50334
COHEN	04	PL B578 359	T.D. Cohen *et al.*		REFID=49765
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BARNES	03	PR D68 054006	T. Barnes *et al.*		REFID=49581
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TERASAKI	03	PR D68 011501	K. Terasaki		REFID=49474
VANBEVEREN	03	PRL 91 012003	E. van Beveren, G. Rupp		REFID=49472