



$$I(J^P) = 0(0^+)^\pm$$

$J, P$  need confirmation.

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

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

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>2317.8±0.6 OUR FIT</b>	Error	includes scale factor of 1.1.		
<b>2318.0±1.0 OUR AVERAGE</b>	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	<sup>1</sup> AUBERT	04E BABR	10.6 $e^+e^-$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
2317.2±1.3	88	<sup>2</sup> AUBERT,B	04S BABR	$B \rightarrow D_{s0}^{(*)}(2317)^+ \bar{D}^{(*)}$
2317.2±0.5±0.9	761	<sup>3</sup> MIKAMI	04 BELL	10.6 $e^+e^-$
2316.8±0.4±3.0	1267 ± 53	<sup>3,4</sup> AUBERT	03G BABR	10.6 $e^+e^-$
2317.6±1.3	273 ± 33	<sup>3,5</sup> AUBERT	03G BABR	10.6 $e^+e^-$
2319.8±2.1±2.0	24	<sup>3</sup> KROKOVNY	03B BELL	10.6 $e^+e^-$

<sup>1</sup> Supersedes AUBERT 03G.

<sup>2</sup> Systematic errors not evaluated.

<sup>3</sup> Not independent of the corresponding  $m_{D_{s0}^*(2317)} - m_{D_s}$ .

<sup>4</sup> From  $D_s^+ \rightarrow K^+ K^- \pi^+$  decay.

<sup>5</sup> From  $D_s^+ \rightarrow K^+ K^- \pi^+ \pi^0$  decay.

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

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>349.3±0.6 OUR FIT</b>	Error	includes scale factor of 1.1.		
<b>349.2±0.7 OUR AVERAGE</b>				
348.7±0.5±0.7	761	MIKAMI	04 BELL	10.6 $e^+e^-$
350.0±1.2±1.0	135	BESSION	03 CLE2	10.6 $e^+e^-$
351.3±2.1±1.9	24	<sup>6</sup> 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	<sup>7,8</sup> AUBERT	03G BABR	10.6 $e^+e^-$
350.2±1.3	273	<sup>9,10</sup> AUBERT	03G BABR	10.6 $e^+e^-$

<sup>6</sup> Recalculated by us using  $m_{D_s^+} = 1968.5 \pm 0.6$  MeV.

<sup>7</sup> From  $D_s^+ \rightarrow K^+ K^- \pi^+$  decay.

<sup>8</sup> Recalculated by us using  $m_{D_s^+} = 1967.20 \pm 0.03$  MeV.

<sup>9</sup> From  $D_s^+ \rightarrow K^+ K^- \pi^+ \pi^0$  decay.

<sup>10</sup> 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
<b>&lt; 3.8</b>	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	BESSION	03 CLE2	$10.6 e^+ e^-$

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

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

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 D_s^+ \pi^0$	seen
$\Gamma_2 D_s^+ \gamma$	
$\Gamma_3 D_s^*(2112)^+ \gamma$	
$\Gamma_4 D_s^+ \gamma \gamma$	
$\Gamma_5 D_s^*(2112)^+ \pi^0$	
$\Gamma_6 D_s^+ \pi^+ \pi^-$	
$\Gamma_7 D_s^+ \pi^0 \pi^0$	not seen

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

$\Gamma(D_s^+ \pi^0)/\Gamma_{\text{total}}$					$\Gamma_1/\Gamma$
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
<b>seen</b>	$1540 \pm 62$	AUBERT	03G BABR	$10.6 e^+ e^-$	

$\Gamma(D_s^+ \gamma)/\Gamma(D_s^+ \pi^0)$					$\Gamma_2/\Gamma_1$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
<b>&lt;0.05</b>	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	BESSION	03 CLE2	$10.6 e^+ e^-$	

$\Gamma(D_s^*(2112)^+ \gamma)/\Gamma(D_s^+ \pi^0)$					$\Gamma_3/\Gamma_1$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
<b>&lt;0.059</b>	90	BESSION	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	$10.6 e^+ e^-$	

$\Gamma(D_s^+ \gamma\gamma)/\Gamma(D_s^+ \pi^0)$					$\Gamma_4/\Gamma_1$
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>&lt;0.18</b>	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 $e^+ e^-$	
$\Gamma(D_s^{*(2112)+} \pi^0)/\Gamma(D_s^+ \pi^0)$					$\Gamma_5/\Gamma_1$
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>&lt;0.11</b>	90	BESSION	03 CLE2	10.6 $e^+ e^-$	
$\Gamma(D_s^+ \pi^+ \pi^-)/\Gamma(D_s^+ \pi^0)$					$\Gamma_6/\Gamma_1$
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>&lt;0.004</b>	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	BESSION	03 CLE2	10.6 $e^+ e^-$	
$\Gamma(D_s^+ \pi^0 \pi^0)/\Gamma(D_s^+ \pi^0)$					$\Gamma_7/\Gamma_1$
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>&lt;0.25</b>	95	AUBERT	06P BABR	10.6 $e^+ e^-$	

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

AUBERT	06P	PR D74 032007	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	04E	PR D69 031101R	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,B	04S	PRL 93 181801	B. Aubert <i>et al.</i>	(BABAR Collab.)
MIKAMI	04	PRL 92 012002	Y. Mikami <i>et al.</i>	(BELLE Collab.)
AUBERT	03G	PRL 90 242001	B. Aubert <i>et al.</i>	(BaBar Collab.)
BESSION	03	PR D68 032002	D. Besson <i>et al.</i>	(CLEO Collab.)
KROKOVNY	03B	PRL 91 262002	P. Krokovny <i>et al.</i>	(BELLE Collab.)

### OTHER RELATED PAPERS

GUO	08A	PL B665 157	F.-K. Guo <i>et al.</i>	
GUO	08B	PL B666 251	F.-K. Guo <i>et al.</i>	
FAESSLER	07	PR D76 014003	A. Faessler <i>et al.</i>	
FAESSLER	07A	PR D76 014005	A. Faessler <i>et al.</i>	
FLYNN	07	PR D75 074024	J.M. Flynn, J. Nieves	
LAKHINA	07	PL B650 159	O. Lakhina, E. Swanson	
LI	07	EPJ C51 359	D.M. Li <i>et al.</i>	
WANG	07	PR D75 034013	Z.-G. Wang	
COLANGELO	06	PL B642 48	P. Colangelo <i>et al.</i>	
DMITRASINO...	06	MPL A21 533	V. Dmitrasinovic	
NIELSEN	06	PL B634 35	M. Nielsen	
SWANSON	06	PRPL 429 243	E.S. Swanson	(PITT)
VANBEVEREN	06A	PR D74 037501	E. van Beberen <i>et al.</i>	
VANBEVEREN	06B	PRL 97 202001	E. van Beberen, G. Rupp	
VIJANDE	06	PR D73 034002	J. Vijande, F. Fernandez, A. Valcarce	
WANG	06	PR D73 094020	Z.-G. Wang, S.-L. Wan	
WEI	06	PR D73 034004	W. Wei, P.-Z. Huang, S.-L. Zhu	
BICUDO	05	NP A748 537	P. Bicudo	
BRACCO	05	PL B624 217	M.E. Bracco, A. Lozea, R.D. Matheus	
CLOSE	05C	PR D72 094004	F.E. Close, E.S. Swanson	(OXFTP)
COLANGELO	05	PR D72 074004	P. Colangelo, F. De Fazio, A. Ozpineci	
DMITRASINO...	05	PRL 94 162002	V. Dmitrasinovic	
GODFREY	05	PR D72 054029	S. Godfrey	
KIM	05A	PR D72 074012	H. Kim, Y. Oh	

MAIANI	05	PR D71 014028	L. Maiani <i>et al.</i>
ZHANG	05C	PR D72 017902	A. Zhang
BROWDER	04	PL B578 365	T.E. Browder, S. Pakvasa, A.A. Petrov
CHEN	04A	PR D69 054002	C.-H. Chen
CHEN	04C	PRL 93 232001	Y.-Q. Chen, X.-Q. Li
COHEN	04	PL B578 359	T.D. Cohen <i>et al.</i>
DMITRASINO...	04	PR D70 096011	V. Dmitrasinovic
FAYYAZUDDIN	04	PR D69 114008	Fayyazuddin, Riazuddin
HWANG	04	PL B601 137	D.S. Hwang, D.-W. Kim
KOLOMEITSEV	04	PL B582 39	E.E. Kolomeitsev, M.F.M. Lutz
LIPKIN	04	PL B580 50	H.J. Lipkin
SADZIKOWSKI	04	PL B579 39	M. Sadzikowski
SIMONOV	04	PR D70 114013	Yu.A. Simonov, J.A. Tjon
VANBEVEREN	04	MPL A19 1949	E. van Beveren, G. Rupp
BALI	03	PR D68 071501	G.S. Bali
BARDEEN	03	PR D68 054024	W.A. Bardeen <i>et al.</i>
BARNES	03	PR D68 054006	T. Barnes <i>et al.</i>
CAHN	03	PR D68 037502	R.N. Cahn, J.D. Jackson
CHENG	03C	PL B566 193	H.-Y. Cheng, W.-S. Hou
COLANGELO	03B	PL B570 180	P. Colangelo, F. De Fazio
DATTA	03C	PL B572 164	A. Datta, P.J. O'Donnell
SZCZEPANIAK	03	PL B567 23	A.P. Szczepaniak
TERASAKI	03	PR D68 011501	K. Terasaki
VANBEVEREN	03	PRL 91 012003	E. van Beveren, G. Rupp

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