$\chi_{c0}(1P)$

$I^G(J^{PC}) = 0^+(0^{++})$

$\chi_{c0}(1P)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
3414.76± 0.35 OUR AVERAGE		Error includes scale factor of 1.2.			
3414.21± 0.39±0.27		ABLIKIM	05G	BES2	$\psi(2S) \to \gamma\chi_{c0}$
$3414.7 {}^{+0.7}_{-0.6} \pm 0.2$		[1] ANDREOTTI	03	E835	$\overline{p}p \to \chi_{c0} \to \pi^0\pi^0$
3415.5 ± 0.4 ±0.4	392	[2] BAGNASCO	02	E835	$\overline{p}p \to \chi_{c0} \to J/\psi\gamma$
$3417.4 {}^{+1.8}_{-1.9} \pm 0.2$		[1] AMBROGIANI	99B	E835	$\overline{p}p \to e^+e^-\gamma$
3414.1 ± 0.6 ±0.8		BAI	99B	BES	$\psi(2S) \to \gamma X$
3417.8 ± 0.4 ±4		[1] GAISER	86	CBAL	$\psi(2S) \to \gamma X$
3416 ± 3 ±4		[3] TANENBAUM	78	MRK1	e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3407 ±11	89	[4] ABE	04G	BELL	10.6 $e^+e^- \to J/\psi(c\overline{c})$
3416.5 ± 3.0		EISENSTEIN	01	CLE2	$e^+e^- \to e^+e^-\chi_{c0}$
3422 ±10		[3] BARTEL	78B	CNTR	$e^+e^- \to J/\psi 2\gamma$
3415 ± 9		[3] BIDDICK	77	CNTR	$e^+e^- \to \gamma X$

[1] Using mass of $\psi(2S)$ = 3686.0 MeV.
[2] Recalculated by ANDREOTTI 05A, using the value of $\psi(2S)$ mass from AULCHENKO 03.
[3] Mass value shifted by us by amount appropriate for $\psi(2S)$ mass = 3686 MeV and $J/\psi(1S)$ mass = 3097 MeV.
[4] From a fit of the J/ψ recoil mass spectrum. Systematic errors not estimated.

$\chi_{c0}(1P)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
10.4±0.7 OUR FIT					
10.5±0.9 OUR AVERAGE		Error includes scale factor of 1.2.			
$12.6 {}^{+1.5}_{-1.6} {}^{+0.9}_{-1.1}$		ABLIKIM	05G	BES2	$\psi(2S) \to \gamma\chi_{c0}$
$8.6 {}^{+1.7}_{-1.3} \pm 0.1$		ANDREOTTI	03	E835	$\overline{p}p \to \chi_{c0} \to \pi^0\pi^0$
9.7±1.0	392	[5] BAGNASCO	02	E835	$\overline{p}p \to \chi_{c0} \to J/\psi\gamma$
$16.6 {}^{+5.2}_{-3.7} \pm 0.1$		AMBROGIANI	99B	E835	$\overline{p}p \to e^+e^-\gamma$
14.3±2.0±3.0		BAI	98I	BES	$\psi(2S) \to \gamma\pi^+\pi^-$
13.5±3.3±4.2		GAISER	86	CBAL	$\psi(2S) \to \gamma X$, $\gamma\pi^0\pi^0$

[5] Recalculated by ANDREOTTI 05A.

$\chi_{c0}(1P)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level

Hadronic decays

Γ_1	$2(\pi^+\pi^-)$	(2.41 ± 0.23) %	
Γ_2	$f_0(980) f_0(980) \to 2\pi^+ 2\pi^-$	$(7.1 \pm2.3) \times 10^{-4}$	
Γ_3	$\pi^+\pi^- K^+ K^-$	(2.0 ± 0.4) %	S=1.6
Γ_4	$f_0(980) f_0(980) \to \pi^+\pi^- K^+ K^-$	$(1.7 {}^{+1.1}_{-1.0}) \times 10^{-4}$	
Γ_5	$f_0(980) f_0(2200) \to \pi^+\pi^- K^+ K^-$	$(8.4 {}^{+2.2}_{-2.7}) \times 10^{-4}$	
Γ_6	$f_0(1370) f_0(1370) \to \pi^+\pi^- K^+ K^-$	$< 2.9 \times 10^{-4}$	CL=90%
Γ_7	$f_0(1370) f_0(1500) \to \pi^+\pi^- K^+ K^-$	$< 1.8 \times 10^{-4}$	CL=90%
Γ_8	$f_0(1370) f_0(1710) \to \pi^+\pi^- K^+ K^-$	$(7.1 {}^{+3.8}_{-2.5}) \times 10^{-4}$	
Γ_9	$f_0(1500) f_0(1370) \to \pi^+\pi^- K^+ K^-$	$< 1.4 \times 10^{-4}$	CL=90%
Γ_{10}	$f_0(1500) f_0(1500) \to \pi^+\pi^- K^+ K^-$	$< 6 \times 10^{-5}$	CL=90%
Γ_{11}	$f_0(1500) f_0(1710) \to \pi^+\pi^- K^+ K^-$	$< 7 \times 10^{-5}$	CL=90%
Γ_{12}	$\rho^0\pi^+\pi^-$	(1.6 ± 0.5) %	
Γ_{13}	$3(\pi^+\pi^-)$	(1.19 ± 0.18) %	
Γ_{14}	$K^+\overline{K}^*(892)^0\pi^-$ + c.c.	(1.2 ± 0.4) %	
Γ_{15}	$K_1(1270)^+ K^-$ + c.c. $\to \pi^+\pi^- K^+ K^-$	$(6.7 \pm2.0) \times 10^{-3}$	
Γ_{16}	$K_1(1400)^+ K^-$ + c.c. $\to \pi^+\pi^- K^+ K^-$	$< 2.9 \times 10^{-3}$	CL=90%
Γ_{17}	$K^*(892)^0\overline{K}^*(892)^0$	$(1.8 \pm0.6) \times 10^{-3}$	
Γ_{18}	$K_0^*(1430)^0\overline{K}_0^*(1430)^0 \to \pi^+\pi^- K^+ K^-$	$(1.05 {}^{+0.39}_{-0.30}) \times 10^{-3}$	
Γ_{19}	$K_0^*(1430)^0\overline{K}_2^*(1430)^0$ + c.c. $\to \pi^+\pi^- K^+ K^-$	$(8.5 {}^{+2.1}_{-2.6}) \times 10^{-4}$	
Γ_{20}	$K^+ K^-$	$(5.4 \pm0.6) \times 10^{-3}$	
Γ_{21}	$\pi\pi$	$(7.2 \pm0.6) \times 10^{-3}$	
Γ_{22}	$\pi^0\eta$		
Γ_{23}	$\pi^0\eta'$		
Γ_{24}	$\eta\eta$	$(1.9 \pm0.5) \times 10^{-3}$	
Γ_{25}	$\eta\eta'$		
Γ_{26}	$\omega\omega$	$(2.3 \pm0.7) \times 10^{-3}$	
Γ_{27}	$K^+ K^- K_S^0 K_S^0$	$(1.5 \pm0.5) \times 10^{-3}$	
Γ_{28}	$K^+ K^- K^+ K^-$	$(2.1 \pm0.4) \times 10^{-3}$	
Γ_{29}	$K_S^0 K_S^0$	$(2.8 \pm0.7) \times 10^{-3}$	S=1.9
Γ_{30}	$K_S^0 K_S^0\pi^+\pi^-$	$(6.1 \pm1.1) \times 10^{-3}$	
Γ_{31}	$K_S^0 K_S^0 p\overline{p}$	$< 8.8 \times 10^{-4}$	CL=90%
Γ_{32}	$\pi^+\pi^- p\overline{p}$	$(2.1 \pm0.7) \times 10^{-3}$	S=1.4

Γ_{33}	$\phi\phi$	$(9 \pm 5) \times 10^{-4}$	
Γ_{34}	$p\overline{p}$	$(2.16\pm0.19) \times 10^{-4}$	
Γ_{35}	$\Lambda\overline{\Lambda}$	$(4.4 \pm1.5) \times 10^{-4}$	
Γ_{36}	$\Lambda\overline{\Lambda}\pi^+\pi^-$	$< 4.0 \times 10^{-3}$	CL=90%
Γ_{37}	$\Xi^-\overline{\Xi}^+$	$< 1.03 \times 10^{-3}$	CL=90%
Γ_{38}	$K^0_S K^+\pi^- +$ c.c.	$< 7 \times 10^{-4}$	CL=90%

Radiative decays

Γ_{39}	$\gamma J/\psi(1S)$	(1.30 ± 0.11) %	
Γ_{40}	$\gamma\gamma$	$(2.76\pm0.33) \times 10^{-4}$	

$\chi_{c0}(1P)$ PARTIAL WIDTHS

$\chi_{c0}(1P)$ $\Gamma(i)\Gamma(\gamma J/\psi(1S))/\Gamma(\text{total})$

$\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma_{\text{total}}$ — $\Gamma_{34}\Gamma_{39}/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID		TECN	COMMENT
29.2± 2.7 OUR FIT					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
26.6± 2.6±1.4	392	[6,7] BAGNASCO	02	E835	$\overline{p}p \to \chi_{c0} \to J/\psi\gamma$
$48.7^{+11.3}_{-8.9}\pm2.4$		[6,7] AMBROGIANI	99B	E835	$\overline{p}p \to \gamma J/\psi$

[6] Calculated by us using B($J/\psi(1S) \to e^+e^-$) = 0.0593 ± 0.0010.

[7] Values in ($\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma_{\text{total}}$) and ($\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma^2_{\text{total}}$) are not independent. The latter is used in the fit since it is less correlated to the total width.

$\chi_{c0}(1P)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(\pi\pi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ — $\Gamma_{21}\Gamma_{40}/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID		TECN	COMMENT
20.7±3.0 OUR FIT					
22.7±3.2±3.5	129 ± 18	[8] NAKAZAWA	05	BELL	$e^+e^- \to e^+e^-\chi_{c0}$

$\Gamma(K^+K^-) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ — $\Gamma_{20}\Gamma_{40}/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID		TECN	COMMENT
15.6±2.2 OUR FIT					
14.3±1.6±2.3	153 ± 17	NAKAZAWA	05	BELL	$e^+e^- \to e^+e^-\chi_{c0}$

$\Gamma(2(\pi^+\pi^-)) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ — $\Gamma_1\Gamma_{40}/\Gamma$

VALUE (eV)	DOCUMENT ID		TECN	COMMENT
69± 9 OUR FIT				
75±13±8	EISENSTEIN	01	CLE2	$e^+e^- \to e^+e^-\chi_{c0}$

[8] We have multiplied $\pi^+\pi^-$ measurement by 3/2 to obtain $\pi\pi$.

$\chi_{c0}(1P)$ BRANCHING RATIOS

HADRONIC DECAYS

$\Gamma(2(\pi^+\pi^-))/\Gamma_{\text{total}}$ — Γ_1/Γ

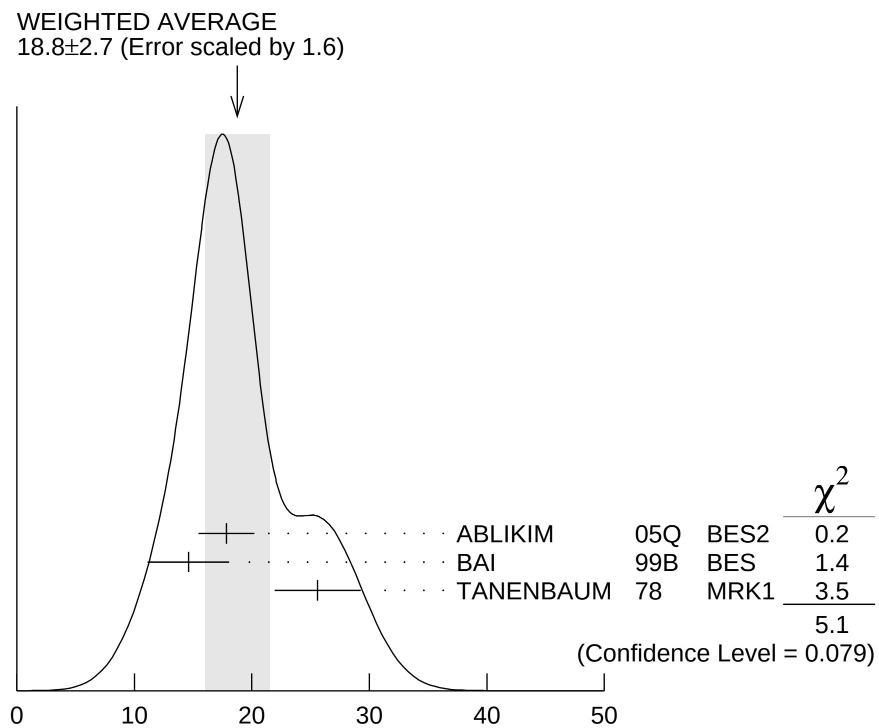
VALUE	DOCUMENT ID
0.0241±0.0023 OUR FIT	

$\Gamma\big(f_0(980)\,f_0(980) \to 2\pi^+ 2\pi^-\big)/\Gamma_{\text{total}}$ — Γ_2/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
7.1±2.2±0.3	36 ± 9	[9] ABLIKIM 04G	BES	$\psi(2S) \to \gamma 2\pi^+ 2\pi^-$

$\Gamma\big(\pi^+\pi^- K^+ K^-\big)/\Gamma_{\text{total}}$ — Γ_3/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
20 ±4 OUR EVALUATION Error includes scale factor of 1.6. Treating systematic error as correlated.			
18.8±2.7 OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below.			
17.8±2.2±0.8	[10] ABLIKIM 05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$
14.6±0.7±3.4	[11] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$
25.6±3.5±1.1	[11] TANENBAUM 78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$



$\Gamma\big(\pi^+\pi^- K^+ K^-\big)/\Gamma_{\text{total}}$ — Γ_3/Γ

$\Gamma\big(f_0(980)\,f_0(980) \to \pi^+\pi^- K^+ K^-\big)/\Gamma_{\text{total}}$ — Γ_4/Γ

VALUE (units 10^{-5})	EVTS	DOCUMENT ID	TECN	COMMENT
$\mathbf{17.^{+11.}_{-10.}\pm1.}$	28	[12] ABLIKIM 05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma\big(f_0(980)\,f_0(2200) \to \pi^+\pi^- K^+ K^-\big)/\Gamma_{\text{total}}$ — Γ_5/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
$\mathbf{8.4^{+2.1}_{-2.7}\pm0.4}$	77	[13] ABLIKIM 05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1370) f_0(1370) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_6/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<2.9	90	[14] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1370) f_0(1500) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_7/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.8	90	[15] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1370) f_0(1710) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_8/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
$\mathbf{7.1^{+3.8}_{-2.5}\pm0.3}$	61	[16] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1500) f_0(1370) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_9/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.4	90	[17] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1500) f_0(1500) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{10}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.6	90	[18] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(f_0(1500) f_0(1710) \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{11}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.7	90	[19] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(\rho^0\pi^+\pi^-)/\Gamma_{total}$ — Γ_{12}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.016±0.005	[20] TANENBAUM	78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(3(\pi^+\pi^-))/\Gamma_{total}$ — Γ_{13}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
11.9±1.8 OUR EVALUATION	Treating systematic error as correlated.			
11.9±1.7 OUR AVERAGE				
11.6±1.0±1.9	[11] BAI	99B	BES	$\psi(2S) \to \gamma\chi_{c0}$
12.4±2.8±0.6	[11] TANENBAUM	78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(K^+\overline{K}^*(892)^0\pi^- + \text{c.c.})/\Gamma_{total}$ — Γ_{14}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.012±0.004	[20] TANENBAUM	78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(K_1(1270)^+ K^- + \text{c.c.} \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{15}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
6.7±2.0±0.3	68	[21] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(K_1(1400)^+ K^- + \text{c.c.} \to \pi^+\pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{16}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<2.9	90	[22] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma\pi^+\pi^- K^+ K^-$

$\Gamma(K^*(892)^0 \overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{17}/Γ

VALUE (units 10^{-3})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
1.8±0.6±0.1	64	[23] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma \pi^+ \pi^- K^+ K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.7±0.4±0.1	30.1 ± 5.7	[24,25] ABLIKIM	04H	BES	Repl. by ABLIKIM 05Q

$\Gamma(K_0^*(1430)^0 \overline{K}_0^*(1430)^0 \to \pi^+ \pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{18}/Γ

VALUE (units 10^{-4})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{10.5^{+3.8}_{-3.0}\pm0.5}$	83	[26] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma \pi^+ \pi^- K^+ K^-$

$\Gamma(K_0^*(1430)^0 \overline{K}_2^*(1430)^0 + \text{c.c.} \to \pi^+ \pi^- K^+ K^-)/\Gamma_{total}$ — Γ_{19}/Γ

VALUE (units 10^{-4})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{8.5^{+2.1}_{-2.6}\pm0.4}$	62	[27] ABLIKIM	05Q	BES2	$\psi(2S) \to \gamma \pi^+ \pi^- K^+ K^-$

$\Gamma(K^+ K^-)/\Gamma_{total}$ — Γ_{20}/Γ

VALUE (units 10^{-3})	*DOCUMENT ID*
5.4±0.6 OUR FIT	

$\Gamma(\pi\pi)/\Gamma_{total}$ — Γ_{21}/Γ

VALUE (units 10^{-3})	*DOCUMENT ID*
7.2±0.6 OUR FIT	

$\Gamma(\eta\eta)/\Gamma_{total}$ — Γ_{24}/Γ

VALUE (units 10^{-3})	*DOCUMENT ID*
1.9±0.5 OUR FIT	

$\Gamma(\eta\eta)/\Gamma(\pi\pi)$ — Γ_{24}/Γ_{21}

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
0.26±0.08 OUR FIT				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.26\pm0.09^{+0.03}_{-0.02}$	[28] ANDREOTTI	05C	E835	$\overline{p}p \to$ 2 mesons
0.24±0.10±0.08	[28] BAI	03C	BES	$\psi(2S) \to 5\gamma$

$\Gamma(\omega\omega)/\Gamma_{total}$ — Γ_{26}/Γ

VALUE (units 10^{-3})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
2.3±0.7±0.1	38.1 ± 9.6	[29] ABLIKIM	05N	BES2	$\psi(2S) \to \gamma \chi_{c0} \to \gamma 6\pi$

$\Gamma(K^+ K^- K_S^0 K_S^0)/\Gamma_{total}$ — Γ_{27}/Γ

VALUE (units 10^{-3})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
1.5±0.5±0.1	16.8 ± 4.8	[30] ABLIKIM	05O	BES2	$\psi(2S) \to \gamma \chi_{c0}$

$\Gamma(K^+ K^- K^+ K^-)/\Gamma_{total}$ — Γ_{28}/Γ

VALUE (units 10^{-3})	*DOCUMENT ID*		*TECN*	*COMMENT*
2.12±0.26±0.32	[11] BAI	99B	BES	$\psi(2S) \to \gamma \chi_{c0}$

$\Gamma(K^0_S K^0_S)/\Gamma_{total}$ — Γ_{29}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID	TECN	COMMENT
2.8 ±0.7 OUR AVERAGE Error includes scale factor of 1.9.				
3.3 ±0.4 ±0.1	322 ± 20	[31] ABLIKIM 05O	BES2	$\psi(2S) \to \gamma\chi_{c0}$
1.94±0.28±0.47		[11] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(K^0_S K^0_S \pi^+\pi^-)/\Gamma_{total}$ — Γ_{30}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID	TECN	COMMENT
6.1±1.1±0.3	152 ± 14	[32] ABLIKIM 05O	BES2	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(K^0_S K^0_S p\overline{p})/\Gamma_{total}$ — Γ_{31}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<8.8	90	[33] ABLIKIM 06D	BES2	$\psi(2S) \to \chi_{c0}\gamma$

$\Gamma(\pi^+\pi^- p\overline{p})/\Gamma_{total}$ — Γ_{32}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
2.1 ±0.7 OUR EVALUATION Error includes scale factor of 1.4. Treating systematic error as correlated.			
2.0 ±1.0 OUR AVERAGE Error includes scale factor of 2.0.			
1.55±0.21±0.52	[11] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$
4.15±1.14±0.18	[11] TANENBAUM 78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(\phi\phi)/\Gamma_{total}$ — Γ_{33}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
0.91±0.34±0.36	[11] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(p\overline{p})/\Gamma_{total}$ — Γ_{34}/Γ

VALUE (units 10^{-4})	DOCUMENT ID
2.16±0.19 OUR FIT	

$\Gamma(\Lambda\overline{\Lambda})/\Gamma_{total}$ — Γ_{35}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
4.4±1.2±0.9	$15.2^{+4.2}_{-4.0}$	[11] BAI 03E	BES	$\psi(2S) \to \gamma\chi_{c0} \to \gamma\Lambda\overline{\Lambda}$

$\Gamma(\Lambda\overline{\Lambda}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{36}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<4.0	90	[33] ABLIKIM 06D	BES2	$\psi(2S) \to \chi_{c0}\gamma$

$\Gamma(\Xi^-\overline{\Xi}^+)/\Gamma_{total}$ — Γ_{37}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<10.3	90	[33] ABLIKIM 06D	BES2	$\psi(2S) \to \chi_{c0}\gamma$

$\Gamma(K^0_S K^+\pi^- + \text{c.c.})/\Gamma_{total}$ — Γ_{38}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<0.7	90	[11] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$

$\Gamma(p\overline{p}) \times \Gamma(\pi\pi)/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{21}/\Gamma^2$

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
15.5±1.6 OUR FIT			
15.3±2.4±0.8	[34] ANDREOTTI 03	E835	$\overline{p}p \rightarrow \chi_{c0} \rightarrow \pi^0\pi^0$

$\Gamma(p\overline{p}) \times \Gamma(\eta\eta)/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{24}/\Gamma^2$

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
4.1±1.1 OUR FIT			
$4.0\pm1.2^{+0.5}_{-0.3}$	ANDREOTTI 05C	E835	$\overline{p}p \rightarrow \eta\eta$

$\Gamma(p\overline{p}) \times \Gamma(\pi^0\eta)/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{22}/\Gamma^2$

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
<0.4	ANDREOTTI 05C	E835	$\overline{p}p \rightarrow \pi^0\eta$

$\Gamma(p\overline{p}) \times \Gamma(\pi^0\eta')/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{23}/\Gamma^2$

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
<2.5	ANDREOTTI 05C	E835	$\overline{p}p \rightarrow \pi^0\eta$

$\Gamma(p\overline{p}) \times \Gamma(\eta\eta')/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{25}/\Gamma^2$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$2.1^{+2.3}_{-1.5}$	ANDREOTTI 05C	E835	$\overline{p}p \rightarrow \pi^0\eta$

[9] ABLIKIM 04G reports $[B(\chi_{c0}(1P) \rightarrow f_0(980) f_0(980) \rightarrow 2\pi^+ 2\pi^-) \times B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))] = (6.5 \pm 1.6 \pm 1.3) \times 10^{-5}$. We divide by our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[10] ABLIKIM 05Q reports $[B(\chi_{c0}(1P) \rightarrow \pi^+\pi^- K^+ K^-) \times B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))] = (1.64 \pm 0.05 \pm 0.20) \times 10^{-3}$. We divide by our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[11] Rescaled by us using $B(\psi(2S) \rightarrow \gamma\chi_{c0}) = (9.2 \pm 0.4)\%$ and $B(\psi(2S) \rightarrow J/\psi(1S)\pi^+\pi^-) = 0.318 \pm 0.006$.

[12] ABLIKIM 05Q reports $[B(\chi_{c0}(1P) \rightarrow f_0(980) f_0(980) \rightarrow \pi^+\pi^- K^+ K^-) \times B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))] = (1.59 \pm 0.50^{+0.89}_{-0.72}) \times 10^{-5}$. We divide by our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. One of the $f_0(980)$ mesons is identified via decay to $\pi^+\pi^-$ while the other via K^+K^- decay.

[13] ABLIKIM 05Q reports $(8.42 \pm 1.42^{+1.65}_{-2.29}) \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The f_0 mesons are identified via $f_0(980) \rightarrow \pi^+\pi^-$ and $f_0(2200) \rightarrow K^+K^-$ decays.

[14] ABLIKIM 05Q reports $< 2.9 \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. One of the $f_0(1370)$ mesons is identified via decay to $\pi^+\pi^-$ while the other via K^+K^- decay.

[15] ABLIKIM 05Q reports $< 1.8 \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. The f_0 mesons are identified via $f_0(1370) \rightarrow \pi^+\pi^-$ and $f_0(1500) \rightarrow K^+K^-$ decays.

[16] ABLIKIM 05Q reports $(7.12 \pm 1.85^{+3.28}_{-1.68}) \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The f_0 mesons are identified via $f_0(1370) \rightarrow \pi^+\pi^-$ and $f_0(1710) \rightarrow K^+K^-$ decays.

[17] ABLIKIM 05Q reports $< 1.4 \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. The f_0 mesons are identified via $f_0(1500) \rightarrow \pi^+\pi^-$ and $f_0(1370) \rightarrow K^+K^-$ decays.

[18] ABLIKIM 05Q reports $< 0.55 \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. One of the $f_0(1500)$ is identified via decay to $\pi^+\pi^-$ while the other via K^+K^- decay.

[19] ABLIKIM 05Q reports $< 0.73 \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. The f_0 mesons are identified via $f_0(1500) \rightarrow \pi^+\pi^-$ and $f_0(1710) \rightarrow K^+K^-$ decays.

[20] Calculated using $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.094$; the errors do not contain the uncertainty in the $\psi(2S)$ decay.

[21] ABLIKIM 05Q reports $(6.66 \pm 1.31^{+1.60}_{-1.51}) \times 10^{-3}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The measurement assumes $B(K_1(1270) \rightarrow K\rho(770)) = 42 \pm 6\%$.

[22] ABLIKIM 05Q reports $< 2.85 \times 10^{-3}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = 0.092$. The measurement assumes $B(K_1(1400) \rightarrow K^*(892)\pi) = 94 \pm 6\%$.

[23] ABLIKIM 05Q reports $[B(\chi_{c0}(1P) \rightarrow K^*(892)^0\overline{K}^*(892)^0) \times B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))] = (0.168 \pm 0.035^{+0.047}_{-0.040}) \times 10^{-3}$. We divide by our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[24] Assumes $B(K^*(892)^0 \rightarrow K^-\pi^+) = 2/3$.

[25] ABLIKIM 04H reports $[B(\chi_{c0}(1P) \rightarrow K^*(892)^0\overline{K}^*(892)^0) \times B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))] = (1.53 \pm 0.29 \pm 0.26) \times 10^{-4}$. We divide by our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[26] ABLIKIM 05Q reports $(10.44 \pm 2.37^{+3.05}_{-1.90}) \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[27] ABLIKIM 05Q reports $(8.49 \pm 1.66^{+1.32}_{-1.99}) \times 10^{-4}$ for $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.22 \pm 0.11 \pm 0.46) \times 10^{-2}$. We rescale to our best value $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.2 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[28] We have multiplied $\pi^0\pi^0$ measurement by 3 to obtain $\pi\pi$.

[29] ABLIKIM 05N reports [B($\chi_{c0}(1P) \to \omega\omega$) × B($\psi(2S) \to \gamma\chi_{c0}(1P)$)] = (0.212 ± 0.053 ± 0.037) × 10^{-3}. We divide by our best value B($\psi(2S) \to \gamma\chi_{c0}(1P)$) = (9.2 ± 0.4) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[30] ABLIKIM 05O reports [B($\chi_{c0}(1P) \to K^+ K^- K^0_S K^0_S$) × B($\psi(2S) \to \gamma\chi_{c0}(1P)$)] = (0.138 ± 0.039 ± 0.025) × 10^{-3}. We divide by our best value B($\psi(2S) \to \gamma\chi_{c0}(1P)$) = (9.2 ± 0.4) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[31] ABLIKIM 05O reports [B($\chi_{c0}(1P) \to K^0_S K^0_S$) × B($\psi(2S) \to \gamma\chi_{c0}(1P)$)] = (0.302 ± 0.019 ± 0.033) × 10^{-3}. We divide by our best value B($\psi(2S) \to \gamma\chi_{c0}(1P)$) = (9.2 ± 0.4) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[32] ABLIKIM 05O reports [B($\chi_{c0}(1P) \to K^0_S K^0_S \pi^+\pi^-$) × B($\psi(2S) \to \gamma\chi_{c0}(1P)$)] = (0.558 ± 0.051 ± 0.089) × 10^{-3}. We divide by our best value B($\psi(2S) \to \gamma\chi_{c0}(1P)$) = (9.2 ± 0.4) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[33] Using B($\psi(2S) \to \chi_{c0}\gamma$) = (9.2 ± 0.5)%

[34] We have multiplied B($p\overline{p}$)·B($\pi^0\pi^0$) measurement by 3 to obtain B($p\overline{p}$)·B($\pi\pi$).

RADIATIVE DECAYS

$\Gamma(\gamma J/\psi(1S))/\Gamma_{total}$ — Γ_{39}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
130±11 OUR FIT				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
200±20±20	[36] ADAM	05A	CLEO	$e^+e^- \to \psi(2S) \to \gamma\chi_{c0}$

$\Gamma(\gamma\gamma)/\Gamma_{total}$ — Γ_{40}/Γ

VALUE (units 10^{-4})	DOCUMENT ID
2.76±0.33 OUR FIT	

$\Gamma(\gamma\gamma)/\Gamma(\gamma J/\psi(1S))$ — Γ_{40}/Γ_{39}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
2.12±0.34 OUR FIT				
2.0 ±0.4 OUR AVERAGE				
2.2 ±0.4 $^{+0.1}_{-0.2}$	[35] ANDREOTTI	04	E835	$p\overline{p} \to \chi_{c0} \to \gamma\gamma$
1.45±0.74	[37] AMBROGIANI	00B	E835	$\overline{p}p \to \chi_{c2} \to \gamma\gamma, \gamma J/\psi$

[35] The values of B($p\overline{p}$)B($\gamma\gamma$) and B($\gamma\gamma$)B($\gamma J/\psi$) measured by ANDREOTTI 04 are not independent. The latter is used in the fit because of smaller systematics.

$\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma^2_{total}$ — $\Gamma_{34}\Gamma_{39}/\Gamma^2$

VALUE (units 10^{-7})	EVTS	DOCUMENT ID		TECN	COMMENT
28.1±1.9 OUR FIT					
28.2±2.1 OUR AVERAGE					
28.0±1.9±1.3	392	[37,38,39] BAGNASCO	02	E835	$\overline{p}p \to \chi_{c0} \to J/\psi\gamma$
29.3$^{+5.7}_{-4.7}$±1.5	89	[37,38] AMBROGIANI	99B		$\overline{p}p \to \chi_{c0} \to J/\psi\gamma$

$\Gamma(p\overline{p}) \times \Gamma(\gamma\gamma)/\Gamma^2_{\text{total}}$ — $\Gamma_{34}\Gamma_{40}/\Gamma^2$

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
6.0 ±0.8 OUR FIT			
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$6.52 \pm 1.18^{+0.48}_{-0.72}$	[35] ANDREOTTI 04	E835	$p\overline{p} \to \chi_{c0} \to \gamma\gamma$

[36] Uses $B(\psi(2S) \to \gamma\chi_{c0} \to \gamma\gamma J/\psi)$ from ADAM 05A and $B(\psi(2S) \to \gamma\chi_{c0})$ from ATHAR 04.

[37] Calculated by us using $B(J/\psi(1S) \to e^+e^-) = 0.0593 \pm 0.0010$.

[38] Values in $(\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma_{\text{total}})$ and $(\Gamma(p\overline{p}) \times \Gamma(\gamma J/\psi(1S))/\Gamma^2_{\text{total}})$ are not independent. The latter is used in the fit since it is less correlated to the total width.

[39] Recalculated by ANDREOTTI 05A.

$\chi_{c0}(1P)$ CROSS-PARTICLE BRANCHING RATIOS

$B(\chi_{c0}(1P) \to p\overline{p}) \times \frac{\Gamma(\psi(2S) \to \gamma\chi_{c0}(1P))}{\Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)}$

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
6.2±0.8 OUR FIT			
4.6±1.9	[40] BAI 98I	BES	$\psi(2S) \to \gamma\chi_{c0} \to \gamma\overline{p}p$

[40] Calculated by us. The value for $B(\chi_{c0} \to p\overline{p})$ reported in BAI 98I is derived using $B(\psi(2S) \to \gamma\chi_{c0}) = (9.3 \pm 0.8)\%$ and $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) = (32.4 \pm 2.6)\%$ [BAI 98D].

$B(\chi_{c0}(1P) \to p\overline{p}) \times B(\psi(2S) \to \gamma\chi_{c0}(1P))$

VALUE (units 10^{-6})	EVTS	DOCUMENT ID	TECN	COMMENT
19.9±2.1 OUR FIT				
$\mathbf{23.6^{+3.7}_{-3.4} \pm 3.4}$	89.5^{+14}_{-13}	BAI 04F	BES	$\psi(2S) \to \gamma\chi_{c0}(1P) \to \gamma\overline{p}p$

$B(\chi_{c0}(1P) \to \gamma J/\psi(1S)) \times B(\psi(2S) \to \gamma\chi_{c0}(1P))$

VALUE (units 10^{-2})	EVTS	DOCUMENT ID	TECN	COMMENT
0.120±0.010 OUR FIT				
0.073±0.018 OUR AVERAGE				
0.069±0.018		[41] OREGLIA 82	CBAL	$\psi(2S) \to \gamma\chi_{c0}$
0.4 ±0.3		[42] BRANDELIK 79B	DASP	$\psi(2S) \to \gamma\chi_{c0}$
0.16 ±0.11		[42] BARTEL 78B	CNTR	$\psi(2S) \to \gamma\chi_{c0}$
3.3 ±1.7		[43] BIDDICK 77	CNTR	$e^+e^- \to \gamma X$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.18 ±0.01 ±0.02	172	[44] ADAM 05A	CLEO	$\psi(2S) \to J/\psi\gamma\gamma$

[41] Recalculated by us using $B(J/\psi(1S) \to \ell^+\ell^-) = 0.1181 \pm 0.0020$.

[42] Recalculated by us using $B(J/\psi(1S) \to \mu^+\mu^-) = 0.0588 \pm 0.0010$.

[43] Assumes isotropic gamma distribution.

[44] Not independent from other values reported by ADAM 05A.

$B(\chi_{c0}(1P) \to \gamma J/\psi) \times \Gamma(\psi(2S) \to \gamma\chi_{c0}(1P)) / \Gamma(\psi(2S) \to J/\psi(1S) anything)$

VALUE (units 10^{-2})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.214±0.004 OUR FIT					
0.31 ±0.02 ±0.03	172	ADAM	05A	CLEO	$\psi(2S) \to J/\psi\gamma\gamma$

$B(\chi_{c0}(1P) \to \gamma J/\psi) \times \Gamma(\psi(2S) \to \gamma\chi_{c0}(1P)) / \Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)$

VALUE (units 10^{-2})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.377±0.033 OUR FIT					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.55 ±0.04 ±0.06	172	[45] ADAM	05A	CLEO	$\psi(2S) \to J/\psi\gamma\gamma$

[45] Not independent from other values reported by ADAM 05A.

$B(\chi_{c0}(1P) \to \gamma\gamma) \times B(\psi(2S) \to \gamma\chi_{c0}(1P))$

VALUE (units 10^{-5})	*DOCUMENT ID*		*TECN*	*COMMENT*
2.55±0.33 OUR FIT				
3.7 ±1.8 ±1.0	LEE	85	CBAL	$\psi(2S) \to \gamma\chi_{c0}$

$B(\chi_{c0}(1P) \to \pi\pi) \times \Gamma(\psi(2S) \to \gamma\chi_{c0}(1P)) / \Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)$

VALUE (units 10^{-4})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
20.9±1.7 OUR FIT					
20.7±1.7 OUR AVERAGE					
23.9±2.7±4.1	97 ± 11	[46] BAI	03C	BES	$\psi(2S) \to \gamma\chi_{c0} \to \gamma\pi^0\pi^0$
20.2±1.1±1.5	720 ± 32	[47] BAI	98I	BES	$\psi(2S) \to \gamma\chi_{c0} \to \gamma\pi^+\pi^-$

[46] We have multiplied $\pi^0\pi^0$ measurement by 3 to obtain $\pi\pi$.

[47] Calculated by us. The value for $B(\chi_{c0} \to \pi^+\pi^-)$ reported in BAI 98I is derived using $B(\psi' \to \gamma\chi_{c0}) = (9.3 \pm 0.8)\%$ and $B(\psi' \to J/\psi\pi^+\pi^-) = (32.4 \pm 2.6)\%$ [BAI 98D]. We have multiplied $\pi^+\pi^-$ measurement by 3/2 to obtain $\pi\pi$.

$B(\chi_{c0}(1P) \to \eta\eta) \times \Gamma(\psi(2S) \to \gamma\chi_{c0}(1P)) / \Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)$

VALUE (units 10^{-3})	*DOCUMENT ID*		*TECN*	*COMMENT*
0.55 ±0.15 OUR FIT				
0.578±0.241±0.158	BAI	03C	BES	$\psi(2S) \to \gamma\eta\eta$

$B(\chi_{c0}(1P) \to K^+K^-) \times \frac{\Gamma(\psi(2S) \to \gamma\chi_{c0}(1P))}{\Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)}$

VALUE (units 10^{-3})	EVTS	DOCUMENT ID	TECN	COMMENT
1.58±0.17 OUR FIT				
1.63±0.10±0.15	774 ± 38	[48] BAI 98I	BES	$\psi(2S) \to \gamma K^+K^-$

[48] Calculated by us. The value for $B(\chi_{c0} \to K^+K^-)$ reported by BAI 98I is derived using $B(\psi(2S) \to \gamma\chi_{c0}) = (9.3 \pm 0.8)\%$ and $B(\psi(2S) \to J/\psi\pi^+\pi^-) = (32.4 \pm 2.6)\%$ [BAI 98D].

$B(\chi_{c0}(1P) \to 2(\pi^+\pi^-)) \times \frac{\Gamma(\psi(2S) \to \gamma\chi_{c0}(1P))}{\Gamma(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)}$

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
7.0±0.6 OUR FIT			
6.9±2.4 OUR AVERAGE Error includes scale factor of 3.8.			
4.4±0.1±0.9	[49] BAI 99B	BES	$\psi(2S) \to \gamma\chi_{c0}$
9.3±0.9	[50] TANENBAUM 78	MRK1	$\psi(2S) \to \gamma\chi_{c0}$

[49] Calculated by us. The value for $B(\chi_{c0} \to 2\pi^+2\pi^-)$ reported in BAI 99B is derived using $B(\psi(2S) \to \gamma\chi_{c0}) = (9.3 \pm 0.8)\%$ and $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) = (32.4 \pm 2.6)\%$ [BAI 98D].

[50] The value $B(\psi(1S) \to \gamma\chi_{c0}) \times B(\chi_{c0} \to 2\pi^+2\pi^-)$ reported in TANENBAUM 78 is derived using $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) \times B(J/\psi(1S) \to \ell^+\ell^-) = (4.6 \pm 0.7)\%$. Calculated by us using $B(J/\psi(1S) \to \ell^+\ell^-) = 0.1181 \pm 0.0020$.

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OTHER RELATED PAPERS

BARBERIS	00G	PL B485 357	D. Barberis *et al.*	(Omega Expt.)
ACCIARRI	99T	PL B461 155	M. Acciarri *et al.*	(L3 Collab.)
CHEN	90B	PL B243 169	W.Y. Chen *et al.*	(CLEO Collab.)
AIHARA	88D	PRL 60 2355	H. Aihara *et al.*	(TPC Collab.)
FELDMAN	75B	PRL 35 821	G.J. Feldman *et al.*	(LBL, SLAC)
Also Erratum.		PRL 35 1189	G.J. Feldman	
TANENBAUM	75	PRL 35 1323	W.M. Tanenbaum *et al.*	(LBL, SLAC)