NODE=M162

$a_2(1700)$

$I^G(J^{PC}) = 1^-(2^{++})$

OMITTED FROM SUMMARY TABLE

$a_2(1700)$ MASS

NODE=M162205

NODE=M162M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1732±16 OUR AVERAGE		Error includes scale factor of 1.9.				
1737± 5± 7		ABE	04	BELL		10.6 $e^+e^- \to e^+e^-K^+K^-$
1698±44		[1] AMSLER	02	CBAR		0.9 $\overline{p}p \to \pi^0\eta\eta$
1660±40		ABELE	99B	CBAR		1.94 $\overline{p}p \to \pi^0\eta\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1722± 9±15	18k	[2] SCHEGELSKY	06	RVUE	0	$\gamma\gamma \to \pi^+\pi^-\pi^0$
1702± 7	80k	[3] UMAN	06	E835		5.2 $\overline{p}p \to \eta\eta\pi^0$
1721±13±44	145k	LU	05	B852		18 $\pi^-p \to \omega\pi^-\pi^0p$
1767±14	221	[4] ACCIARRI	01H	L3		$\gamma\gamma \to K^0_SK^0_S$, E^{ee}_{cm}= 91, 183–209 GeV
∼ 1775		[5] GRYGOREV	99	SPEC		40 $\pi^-p \to K^0_SK^0_Sn$
1752±21± 4		ACCIARRI	97T	L3		$\gamma\gamma \to \pi^+\pi^-\pi^0$

[1] T-matrix pole. NODE=M162M;LINKAGE=TT
[2] From analysis of L3 data at 183–209 GeV. NODE=M162M;LINKAGE=SC
[3] Statistical error only. NODE=M162M;LINKAGE=ST
[4] Spin 2 dominant, isospin not determined, could also be I=1. NODE=M162M;LINKAGE=HA
[5] Possibly two $J^P = 2^+$ resonances with isospins 0 and 1. NODE=M162M;LINKAGE=GR

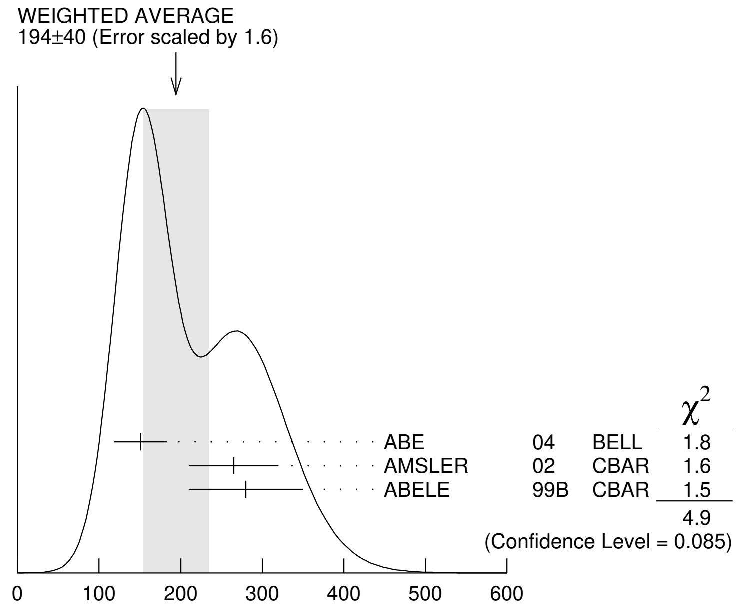
$a_2(1700)$ WIDTH

NODE=M162210

NODE=M162W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
194± 40 OUR AVERAGE		Error includes scale factor of 1.6. See the ideogram below.				
151± 22±24		ABE	04	BELL		10.6 $e^+e^- \to e^+e^-K^+K^-$
265± 55		[6] AMSLER	02	CBAR		0.9 $\overline{p}p \to \pi^0\eta\eta$
280± 70		ABELE	99B	CBAR		1.94 $\overline{p}p \to \pi^0\eta\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
336± 20±20	18k	[7] SCHEGELSKY	06	RVUE	0	$\gamma\gamma \to \pi^+\pi^-\pi^0$
417± 19	80k	[8] UMAN	06	E835		5.2 $\overline{p}p \to \eta\eta\pi^0$
279± 49±66	145k	LU	05	B852		18 $\pi^-p \to \omega\pi^-\pi^0p$
187± 60	221	[9] ACCIARRI	01H	L3		$\gamma\gamma \to K^0_SK^0_S$, E^{ee}_{cm}= 91, 183–209 GeV
150±110±34		ACCIARRI	97T	L3		$\gamma\gamma \to \pi^+\pi^-\pi^0$

[6] T-matrix pole. NODE=M162W;LINKAGE=TT
[7] From analysis of L3 data at 183–209 GeV. NODE=M162W;LINKAGE=SC
[8] Statistical error only. NODE=M162W;LINKAGE=ST
[9] Spin 2 dominant, isospin not determined, could also be I=1. NODE=M162W;LINKAGE=HA



$a_2(1700)$ width

a_2(1700) DECAY MODES

NODE=M162215;NODE=M162

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$\eta\pi$	seen	DESIG=4;OUR EST;→ NOT CHECKED ←
Γ_2	$\gamma\gamma$		DESIG=1
Γ_3	$\rho\pi$		DESIG=2
Γ_4	$f_2(1270)\pi$		DESIG=3
Γ_5	$K\overline{K}$	seen	DESIG=5;OUR EST;→ NOT CHECKED ←
Γ_6	$\omega\pi^-\pi^0$	seen	DESIG=6;OUR EVAL;→ NOT CHECKED ←
Γ_7	$\omega\rho$	seen	DESIG=7;OUR EVAL;→ NOT CHECKED ←

a_2(1700) PARTIAL WIDTHS

NODE=M162220

$\Gamma(\eta\pi)$ Γ_1

NODE=M162W3
NODE=M162W3

VALUE (MeV)	*EVTS*	*DOCUMENT ID*	*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
9.5±2.0	870	[10] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

$\Gamma(\gamma\gamma)$ Γ_2

NODE=M162W2
NODE=M162W2

VALUE (keV)	*EVTS*	*DOCUMENT ID*	*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.30±0.05	870	[10] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

$\Gamma(K\overline{K})$ Γ_5

NODE=M162W1
NODE=M162W1

VALUE (MeV)	*EVTS*	*DOCUMENT ID*	*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.0±3.0	870	[10] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

[10] From analysis of L3 data at 91 and 183–209 GeV, using $a_2(1700)$ mass of 1730 MeV and width of 340 MeV, and SU(3) relations.

NODE=M162W1;LINKAGE=SC

a_2(1700) $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

NODE=M162225

$[\Gamma(\rho\pi)+\Gamma(f_2(1270)\pi)] \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ $(\Gamma_3+\Gamma_4)\Gamma_2/\Gamma$

NODE=M162G1
NODE=M162G1

VALUE (keV)	*EVTS*	*DOCUMENT ID*	*TECN*	*COMMENT*
0.29±0.04±0.02		ACCIARRI 97T	L3	$\gamma\gamma \to \pi^+\pi^-\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.37^{+0.12}_{-0.08}\pm0.10$	18k	[11] SCHEGELSKY 06	RVUE	$\gamma\gamma \to \pi^+\pi^-\pi^0$

[11] From analysis of L3 data at 183–209 GeV.

NODE=M162G1;LINKAGE=SC

$\Gamma(K\overline{K}) \times \Gamma(\gamma\gamma)/\Gamma_{total}$ $\Gamma_5\Gamma_2/\Gamma$

NODE=M162G2

VALUE (eV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
20.6± 4.2± 4.6	[12] ABE	04	BELL	10.6 $e^+e^- \rightarrow e^+e^-K^+K^-$
49 ±11 ±13	[13] ACCIARRI	01H	L3	$\gamma\gamma \rightarrow K^0_S K^0_S$, E^{ee}_{cm}= 91, 183–209 GeV

ERROR=1

[12] Assuming spin 2.

NODE=M162G2;LINKAGE=AB

[13] Spin 2 dominant, isospin not determined, could also be I=1.

NODE=M162G;LINKAGE=HA

a_2(1700) BRANCHING RATIOS

NODE=M162235

$\Gamma(\rho\pi)/\Gamma(f_2(1270)\pi)$ Γ_3/Γ_4

NODE=M162R01

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.4±0.4±0.1	18k	[14] SCHEGELSKY	06	RVUE	$\gamma\gamma \rightarrow \pi^+\pi^-\pi^0$

[14] From analysis of L3 data at 183–209 GeV.

NODE=M162R01;LINKAGE=SC

a_2(1700) REFERENCES

NODE=M162

SCHEGELSKY	06	EPJ A27 199	V.A. Schegelsky *et al.*		REFID=51186
SCHEGELSKY	06A	EPJ A27 207	V.A. Schegelsky *et al.*		REFID=51185
UMAN	06	PR D73 052009	I. Uman *et al.*	(FNAL E835)	REFID=51063
LU	05	PRL 94 032002	M. Lu *et al.*	(BNL E852 Collab.)	REFID=50459
ABE	04	EPJ C32 323	K. Abe *et al.*	(BELLE Collab.)	REFID=49650
AMSLER	02	EPJ C23 29	C. Amsler *et al.*		REFID=48580
ACCIARRI	01H	PL B501 173	M. Acciarri *et al.*	(L3 Collab.)	REFID=48321
ABELE	99B	EPJ C8 67	A. Abele *et al.*	(Crystal Barrel Collab.)	REFID=46904
GRYGOREV	99	PAN 62 470	V.K. Grygorev *et al.*		REFID=46909
		Translated from YAF 62 513.			
ACCIARRI	97T	PL B413 147	M. Acciarri *et al.*	(L3 Collab.)	REFID=45761

OTHER RELATED PAPERS

BAKER	03	PL B563 140	C.A. Baker *et al.*		REFID=49414
BARBERIS	00H	PL B488 225	D. Barberis *et al.*	(WA 102 Collab.)	REFID=47964