$f_2(2300)$

$$I^G(J^{PC}) = 0^+(2^{++})$$

$f_2(2300)$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2297±28	[1] ETKIN	88	MPS	$22\ \pi^- p \to \phi\phi n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2262\pm\ 4\pm28$	[2] ABLIKIM	21AI	BES3	3.51–$4.60\ e^+e^- \to\ \phi\Lambda\overline{\Lambda}$
$2243^{+\ 7}_{-\ 6}{}^{+\ 3}_{-29}$	[3] UEHARA	13	BELL	$\gamma\gamma \to\ K^0_S K^0_S$
2270 ± 12	VLADIMIRSK...06		SPEC	$40\ \pi^- p \to\ K^0_S K^0_S n$
$2327\pm\ 9\pm\ 6$	ABE	04	BELL	$10.6\ e^+e^- \to\ e^+e^- K^+K^-$
2231 ± 10	BOOTH	86	OMEG	$85\ \pi^- \mathrm{Be} \to\ 2\phi \mathrm{Be}$
2220^{+90}_{-20}	LINDENBAUM 84		RVUE	
2320 ± 40	ETKIN	82	MPS	$22\ \pi^- p \to\ 2\phi n$

[1] Includes data of ETKIN 85. The percentage of the resonance going into $\phi\phi$ 2^{++} S_2, D_2, and D_0 is $6^{+15}_{-\ 5}$, 25^{+18}_{-14}, and 69^{+16}_{-27}, respectively.

[2] Threshold enhancement in $\Lambda\overline{\Lambda}$, preferred J^{PC} are 2^{++}, 2^{-+}, or 1^{++}. Could be another state.

[3] Spin 2 preferred, tentatively assigned to $f_2(2300)$.

$f_2(2300)$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
149±41	[1] ETKIN	88	MPS	$22\ \pi^- p \to\ \phi\phi n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$72\pm\ 5\pm43$	[2] ABLIKIM	21AI	BES3	3.51–$4.60\ e^+e^- \to\ \phi\Lambda\overline{\Lambda}$
$145\pm12^{+27}_{-34}$	[3] UEHARA	13	BELL	$\gamma\gamma \to\ K^0_S K^0_S$
90 ± 29	VLADIMIRSK...06		SPEC	$40\ \pi^- p \to\ K^0_S K^0_S n$
$275\pm36\pm20$	ABE	04	BELL	$10.6\ e^+e^- \to\ e^+e^- K^+K^-$
133 ± 50	BOOTH	86	OMEG	$85\ \pi^- \mathrm{Be} \to\ 2\phi \mathrm{Be}$
200 ± 50	LINDENBAUM 84		RVUE	
220 ± 70	ETKIN	82	MPS	$22\ \pi^- p \to\ 2\phi n$

[1] Includes data of ETKIN 85.

[2] Threshold enhancement in $\Lambda\overline{\Lambda}$, preferred J^{PC} are 2^{++}, 2^{-+}, or 1^{++}. Could be another state.

[3] Spin 2 preferred, tentatively assigned to $f_2(2300)$.

$f_2(2300)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\phi\phi$	seen
Γ_2	$K\overline{K}$	seen
Γ_3	$\gamma\gamma$	seen
Γ_4	$\Lambda\overline{\Lambda}$	seen

$f_2(2300)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(K\overline{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ $\qquad\qquad$ $\Gamma_2\Gamma_3/\Gamma$

VALUE (eV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.2^{+0.5+1.3}_{-0.4-2.2}$	UEHARA	13	BELL	$\gamma\gamma \to K^0_S K^0_S$
$44 \pm 6 \pm 12$	[1] ABE	04	BELL	$10.6\ e^+ e^- \to e^+ e^- K^+ K^-$

[1] Assuming spin 2.

$f_2(2340)$ BRANCHING RATIOS

$\Gamma(\phi\phi)/\Gamma_{\text{total}}$ $\qquad\qquad$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	BOOTH	86	OMEG	$85\ \pi^- \text{Be} \to 2\phi\,\text{Be}$
seen	ETKIN	82	MPS	$22\ \pi^- p \to 2\phi\, n$

$\Gamma(K\overline{K})/\Gamma_{\text{total}}$ $\qquad\qquad$ Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	VLADIMIRSK...06		SPEC	$40\ \pi^- p \to K^0_S K^0_S n$
seen	ABE	04	BELL	$10.6\ e^+ e^- \to e^+ e^- K^+ K^-$

$\Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ $\qquad\qquad$ Γ_3/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	UEHARA	13	BELL	$\gamma\gamma \to K^0_S K^0_S$

$\Gamma(\Lambda\overline{\Lambda})/\Gamma_{\text{total}}$ $\qquad\qquad$ Γ_4/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	[1] ABLIKIM	21AI	BES3	$3.51\text{–}4.60\ e^+ e^- \to \phi\Lambda\overline{\Lambda}$

[1] Threshold enhancement in $\Lambda\overline{\Lambda}$, preferred J^{PC} are 2^{++}, 2^{-+}, or 1^{++}. Could be another state.

$f_2(2300)$ REFERENCES

ABLIKIM	21AI	PR D104 052006	M. Ablikim *et al.*	(BESIII Collab.)
UEHARA	13	PTEP 2013 123C01	S. Uehara *et al.*	(BELLE Collab.)
VLADIMIRSK...	06	PAN 69 493	V.V. Vladimirsky *et al.*	(ITEP, Moscow)
		Translated from YAF 69 515.		
ABE	04	EPJ C32 323	K. Abe *et al.*	(BELLE Collab.)
ETKIN	88	PL B201 568	A. Etkin *et al.*	(BNL, CUNY)
BOOTH	86	NP B273 677	P.S.L. Booth *et al.*	(LIVP, GLAS, CERN)
ETKIN	85	PL 165B 217	A. Etkin *et al.*	(BNL, CUNY)
LINDENBAUM	84	CNPP 13 285	S.J. Lindenbaum	(CUNY)
ETKIN	82	PRL 49 1620	A. Etkin *et al.*	(BNL, CUNY)