

$f_2(2300)$

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

 $f_2(2300)$ MASS

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

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 $\Lambda\bar{\Lambda}$, 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 $\pi^- p \rightarrow \phi \phi n$
••• We do not use the following data for averages, fits, limits, etc. •••			
72± 5±43	² ABLIKIM	21AI	BES3 3.51–4.60 $e^+ e^- \rightarrow \phi \Lambda \bar{\Lambda}$
145±12 ⁺ _{−34} 27	³ UEHARA	13	BELL $\gamma\gamma \rightarrow K_S^0 K_S^0$
90±29	VLADIMIRSK...06	SPEC	40 $\pi^- p \rightarrow K_S^0 K_S^0 n$
275±36±20	ABE	04	BELL 10.6 $e^+ e^- \rightarrow e^+ e^- K^+ K^-$
133±50	BOOTH	86	OMEG 85 $\pi^- Be \rightarrow 2\phi Be$
200±50	LINDENBAUM 84	RVUE	
220±70	ETKIN	82	MPS 22 $\pi^- p \rightarrow 2\phi n$

¹ Includes data of ETKIN 85.

² Threshold enhancement in $\Lambda\bar{\Lambda}$, 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 $K\bar{K}$	seen
Γ_3 $\gamma\gamma$	seen
Γ_4 $\Lambda\bar{\Lambda}$	seen

$f_2(2300) \Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$ $\Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ $\Gamma_2\Gamma_3/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • 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 $\gamma\gamma \rightarrow K_S^0 K_S^0$
44 ±6 ±12	¹ ABE	04	BELL 10.6 $e^+e^- \rightarrow e^+e^- K^+ K^-$

¹ Assuming spin 2. $f_2(2340)$ BRANCHING RATIOS $\Gamma(\phi\phi)/\Gamma_{\text{total}}$ Γ_1/Γ

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

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

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

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

VALUE	DOCUMENT ID	TECN	COMMENT
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seen	UEHARA	13	BELL $\gamma\gamma \rightarrow K_S^0 K_S^0$
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 $\Gamma(\Lambda\bar{\Lambda})/\Gamma_{\text{total}}$ Γ_4/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
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seen	¹ ABLIKIM	21AI	BES3 3.51–4.60 $e^+e^- \rightarrow \phi\Lambda\bar{\Lambda}$
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¹ Threshold enhancement in $\Lambda\bar{\Lambda}$, preferred J^{PC} are 2^{++} , 2^{-+} , or 1^{++} . Could be another state. $f_2(2300)$ REFERENCES

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