

$f_0(2020)$

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

OMITTED FROM SUMMARY TABLE

Needs confirmation.

 $f_0(2020)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1992±16		1,2 BARBERIS	00C	450 $pp \rightarrow p_f 4\pi p_S$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
2038±48		³ RODAS	22	RVUE $J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K})$
1925±25		SARANTSEV	21	RVUE $J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
1910±50		⁴ ROPERTZ	18	RVUE $\bar{B}_S^0 \rightarrow J/\psi(\pi^+\pi^-/K^+K^-)$
2037±8	80k	⁵ UMAN	06	E835 $5.2 \bar{p}p \rightarrow \eta\eta\pi^0$
2040±38		ANISOVICH	00J	SPEC
2010±60		ALDE	98	GAM4 $100 \pi^- p \rightarrow \pi^0\pi^0 n$
2020±35		BARBERIS	97B	OMEG $450 pp \rightarrow pp2(\pi^+\pi^-)$

¹ Average between $\pi^+\pi^-2\pi^0$ and $2(\pi^+\pi^-)$.² T-matrix pole.³ T-matrix pole from coupled channel K-matrix fit to data on $J/\psi \rightarrow \gamma\pi^0\pi^0$ (ABLIKIM 15AE) and $J/\psi \rightarrow \gamma K_S^0 K_S^0$ (ABLIKIM 18AA).⁴ T-matrix pole of 3 channel unitary model fit to data from AAIJ 14BR and AAIJ 17V extracted using Pade approximants.⁵ Statistical error only. **$f_0(2020)$ WIDTH**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
442±60		1,2 BARBERIS	00C	450 $pp \rightarrow p_f 4\pi p_S$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
312±82		³ RODAS	22	RVUE $J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K})$
320±35		SARANTSEV	21	RVUE $J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
400±80		⁴ ROPERTZ	18	RVUE $\bar{B}_S^0 \rightarrow J/\psi(\pi^+\pi^-/K^+K^-)$
296±17	80k	⁵ UMAN	06	E835 $5.2 \bar{p}p \rightarrow \eta\eta\pi^0$
405±40		ANISOVICH	00J	SPEC
240±100		ALDE	98	GAM4 $100 \pi^- p \rightarrow \pi^0\pi^0 n$
410±50		BARBERIS	97B	OMEG $450 pp \rightarrow pp2(\pi^+\pi^-)$

¹ Average between $\pi^+\pi^-2\pi^0$ and $2(\pi^+\pi^-)$.² T-matrix pole.³ T-matrix pole from coupled channel K-matrix fit to data on $J/\psi \rightarrow \gamma\pi^0\pi^0$ (ABLIKIM 15AE) and $J/\psi \rightarrow \gamma K_S^0 K_S^0$ (ABLIKIM 18AA).⁴ T-matrix pole of 3 channel unitary model fit to data from AAIJ 14BR and AAIJ 17V extracted using Pade approximants.⁵ Statistical error only.

$f_0(2020)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $\rho\pi\pi$	seen
Γ_2 $\pi^0\pi^0$	seen
Γ_3 $\rho\rho$	seen
Γ_4 $\omega\omega$	seen
Γ_5 $\eta\eta$	seen

 $f_0(2020)$ BRANCHING RATIOS

$\Gamma(\rho\rho)/\Gamma(\omega\omega)$				Γ_3/Γ_4
VALUE	DOCUMENT ID	COMMENT		
• • •	We do not use the following data for averages, fits, limits, etc. • • •			
~ 3	BARBERIS	00F	450 $pp \rightarrow p_f \omega \omega p_s$	
$\Gamma(\eta\eta)/\Gamma_{\text{total}}$				Γ_5/Γ
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	UMAN	06	E835 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$	

 $f_0(2020)$ REFERENCES

RODAS	22	EPJ C82 80	A. Rodas <i>et al.</i>	(JPAC Collab.)
SARANTSEV	21	PL B816 136227	A.V. Sarantsev <i>et al.</i>	(BONN, PNPI)
ABLIKIM	18AA	PR D98 072003	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ROPERTZ	18	EPJ C78 1000	S. Ropertz, C. Hanhart, B. Kubis	(BONN, JULI)
AAIJ	17V	JHEP 1708 037	R. Aaij <i>et al.</i>	(LHCb Collab.)
ABLIKIM	15AE	PR D92 052003	M. Ablikim <i>et al.</i>	(BESIII Collab.)
AAIJ	14BR	PR D89 092006	R. Aaij <i>et al.</i>	(LHCb Collab.)
UMAN	06	PR D73 052009	I. Uman <i>et al.</i>	(FNAL E835)
ANISOVICH	00J	PL B491 47	A.V. Anisovich <i>et al.</i>	(RAL, LOQM, PNPI+)
BARBERIS	00C	PL B471 440	D. Barberis <i>et al.</i>	(WA 102 Collab.)
BARBERIS	00F	PL B484 198	D. Barberis <i>et al.</i>	(WA 102 Collab.)
ALDE	98	EPJ A3 361	D. Alde <i>et al.</i>	(GAM4 Collab.)
Also		PAN 62 405	D. Alde <i>et al.</i>	(GAMS Collab.)
		Translated from YAF 62 446.		
BARBERIS	97B	PL B413 217	D. Barberis <i>et al.</i>	(WA 102 Collab.)