

$f_0(2020)$

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

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. ● ● ●				
1910 ± 50		³ ROPERTZ	18	RVUE $\bar{B}_s^0 \rightarrow J/\psi(\pi^+\pi^-/K^+K^-)$
2037 ± 8	80k	⁴ 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 of 3 channel unitary model fit to data from AAIJ 14BR and AAIJ 17V extracted using Pade approximants.⁴ 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. ● ● ●				
400 ± 80		³ ROPERTZ	18	RVUE $\bar{B}_s^0 \rightarrow J/\psi(\pi^+\pi^-/K^+K^-)$
296 ± 17	80k	⁴ 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 of 3 channel unitary model fit to data from AAIJ 14BR and AAIJ 17V extracted using Pade approximants.⁴ 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

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.)
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.)