

# $f_0(2100)$

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

OMITTED FROM SUMMARY TABLE

Needs confirmation.

## $f_0(2100)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>2095<sup>+17</sup><sub>-19</sub> OUR AVERAGE</b>				
2116 ± 27 ± 17		LEES	21A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow \eta' \pi^+ \pi^-$
2081 ± 13 <sup>+24</sup> <sub>-36</sub>	5.5k	<sup>1</sup> ABLIKIM	13N BES3	$e^+ e^- \rightarrow J/\psi \rightarrow \gamma \eta \eta$
2090 ± 30		BAI	00A BES	$J/\psi \rightarrow \gamma(\pi^+ \pi^- \pi^+ \pi^-)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
2075 ± 20		SARANTSEV	21 RVUE	$J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
2090 ± 10 ± 6	529	<sup>2,3</sup> DOBBS	15	$J/\psi \rightarrow \gamma \pi^+ \pi^-$
2099 ± 17 ± 8	283	<sup>2,3</sup> DOBBS	15	$\psi(2S) \rightarrow \gamma \pi^+ \pi^-$
2105 ± 8	80k	<sup>4</sup> UMAN	06 E835	$5.2 \bar{p}p \rightarrow \eta \eta \pi^0$
2102 ± 13		<sup>5</sup> ANISOVICH	00J SPEC	$2.0 \bar{p}p \rightarrow \eta \pi^0 \pi^0, \pi^0 \pi^0, \eta\eta, \eta\eta', \pi^+ \pi^-$
2105 ± 10		ANISOVICH	99K SPEC	$0.6-1.94 \bar{p}p \rightarrow \eta\eta, \eta\eta'$
~ 2104		BUGG	95	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$
~ 2122		HASAN	94 RVUE	$\bar{p}p \rightarrow \pi\pi$

<sup>1</sup> From partial wave analysis including all possible combinations of  $0^{++}$ ,  $2^{++}$ , and  $4^{++}$  resonances.

<sup>2</sup> Using CLEO-c data but not authored by the CLEO Collaboration.

<sup>3</sup> From a fit to a Breit-Wigner line shape with fixed  $\Gamma = 209$  MeV.

<sup>4</sup> Statistical error only.

<sup>5</sup> Includes the data of ANISOVICH 00B indicating to exotic decay pattern.

## $f_0(2100)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>287<sup>+32</sup><sub>-24</sub> OUR AVERAGE</b>				
289 ± 34 ± 15		LEES	21A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow \eta' \pi^+ \pi^-$
273 <sup>+27</sup> <sub>-24</sub> ± 70 <sup>+20</sup> <sub>-23</sub>	5.5k	<sup>1</sup> ABLIKIM	13N BES3	$e^+ e^- \rightarrow J/\psi \rightarrow \gamma \eta \eta$
330 ± 100		BAI	00A BES	$J/\psi \rightarrow \gamma(\pi^+ \pi^- \pi^+ \pi^-)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
260 ± 25		SARANTSEV	21 RVUE	$J/\psi(1S) \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
236 ± 14	80k	<sup>2</sup> UMAN	06 E835	$5.2 \bar{p}p \rightarrow \eta \eta \pi^0$
211 ± 29		<sup>3</sup> ANISOVICH	00J SPEC	$2.0 \bar{p}p \rightarrow \eta \pi^0 \pi^0, \pi^0 \pi^0, \eta\eta, \eta\eta', \pi^+ \pi^-$
200 ± 25		ANISOVICH	99K SPEC	$0.6-1.94 \bar{p}p \rightarrow \eta\eta, \eta\eta'$
~ 203		BUGG	95	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$
~ 273		HASAN	94 RVUE	$\bar{p}p \rightarrow \pi\pi$

<sup>1</sup> From partial wave analysis including all possible combinations of  $0^{++}$ ,  $2^{++}$ , and  $4^{++}$  resonances.

<sup>2</sup> Statistical error only.

<sup>3</sup> Includes the data of ANISOVICH 00B indicating to exotic decay pattern.

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## $f_0(2100)$ REFERENCES

LEES	21A	PR D104 072002	J.P. Lees <i>et al.</i>	(BABAR Collab.)
SARANTSEV	21	PL B816 136227	A.V. Sarantsev <i>et al.</i>	(BONN, PNPI)
DOBBS	15	PR D91 052006	S. Dobbs <i>et al.</i>	(NWES)
ABLIKIM	13N	PR D87 092009	M. Ablikim <i>et al.</i>	(BESIII Collab.)
UMAN	06	PR D73 052009	I. Uman <i>et al.</i>	(FNAL E835)
ANISOVICH	00B	NP A662 319	A.V. Anisovich <i>et al.</i>	
ANISOVICH	00J	PL B491 47	A.V. Anisovich <i>et al.</i>	(RAL, LOQM, PNPI+)
BAI	00A	PL B472 207	J.Z. Bai <i>et al.</i>	(BES Collab.)
ANISOVICH	99K	PL B468 309	A.V. Anisovich <i>et al.</i>	
BUGG	95	PL B353 378	D.V. Bugg <i>et al.</i>	(LOQM, PNPI, WASH)
HASAN	94	PL B334 215	A. Hasan, D.V. Bugg	(LOQM)

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