

$f_0(1770)$

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

OMITTED FROM SUMMARY TABLE

See the review on "Spectroscopy of Light Meson Resonances."

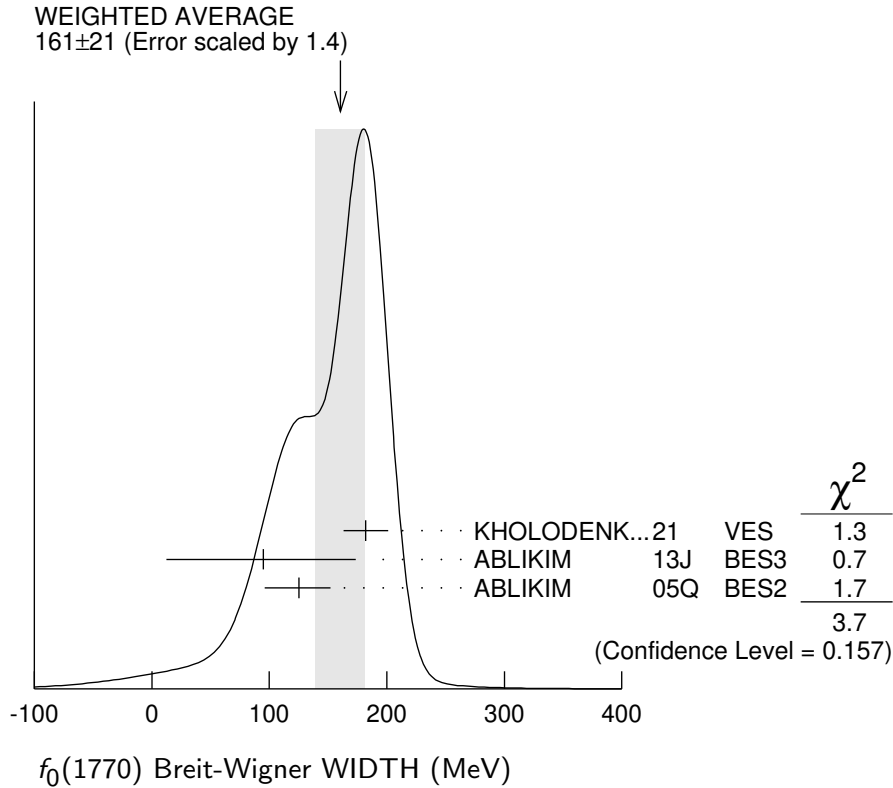
$f_0(1770)$ Breit-Wigner MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1784^{+16}_{-14} OUR AVERAGE		Error includes scale factor of 1.1.		
1814±31	7.2k	¹ KHOLODENK..21	VES	29 $\pi^- p \rightarrow n\omega\phi$
1795± 7^{+23}_{-20}		ABLIKIM	13J BES3	$J/\psi \rightarrow \gamma\omega\phi$
1760± 15^{+15}_{-10}		ABLIKIM	05Q BES2	$\psi(2S) \rightarrow \gamma\pi^+\pi^-K^+K^-$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1765±15		SARANTSEV	21 RVUE	$J/\psi \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
1814±18		^{2,3} AAIJ	14BR LHCB	$\bar{B}_s^0 \rightarrow J/\psi\pi^+\pi^-$
1812± 19^{+19}_{-26} ±18		⁴ ABLIKIM	06J BES2	$J/\psi \rightarrow \gamma\omega\phi$
1790± 40^{+40}_{-30}		ABLIKIM	05 BES2	$J/\psi \rightarrow \phi\pi^+\pi^-$
¹ From partial wave analysis of $\omega\phi$ invariant mass including 0^{++} , 2^{++} , and 0^{-+} resonances.				
² Second solution: 1800 ± 22 MeV. The fit favors $f_0(1770)$ to $f_0(1710)$.				
³ Statistical error only.				
⁴ Not seen by LIU 09 in $B^\pm \rightarrow K^\pm\omega\phi$.				

$f_0(1770)$ Breit-Wigner WIDTH

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
161 ± 21 OUR AVERAGE		Error includes scale factor of 1.4. See the ideogram below.		
182±19	7.2k	¹ KHOLODENK..21	VES	29 $\pi^- p \rightarrow n\omega\phi$
95± 10^{+78}_{-82}		ABLIKIM	13J BES3	$J/\psi \rightarrow \gamma\omega\phi$
125± 25^{+10}_{-15}		ABLIKIM	05Q BES2	$\psi(2S) \rightarrow \gamma\pi^+\pi^-K^+K^-$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
180±20		SARANTSEV	21 RVUE	$J/\psi \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
328±34		^{2,3} AAIJ	14BR LHCB	$\bar{B}_s^0 \rightarrow J/\psi\pi^+\pi^-$
105± 20 ± 28		⁴ ABLIKIM	06J BES2	$J/\psi \rightarrow \gamma\omega\phi$
270± 60^{+60}_{-30}		⁵ ABLIKIM	05 BES2	$J/\psi \rightarrow \phi\pi^+\pi^-$

- ¹ From partial wave analysis of $\omega\phi$ invariant mass including 0^{++} , 2^{++} , and 0^{-+} resonances.
- ² Second solution: 263 ± 30 MeV. The fit favors $f_0(1770)$ to $f_0(1710)$.
- ³ Statistical error only.
- ⁴ Not seen by LIU 09 in $B^\pm \rightarrow K^\pm \omega\phi$.
- ⁵ $f_0(1710)$ width fixed to PDG value.



$f_0(1770)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $\pi\pi$	seen
Γ_2 $K\bar{K}$	seen
Γ_3 $\eta\eta$	seen
Γ_4 $\omega\phi$	seen

$\Gamma(\pi\pi)/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
seen	SARANTSEV	21 RVUE	$J/\psi \rightarrow \gamma(\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$
seen	AAIJ	14BR LHCB	$\bar{B}_S^0 \rightarrow J/\psi \pi^+ \pi^-$
seen	ABLIKIM	05 BES2	$J/\psi \rightarrow \phi \pi^+ \pi^-$

$\Gamma(K\bar{K})/\Gamma_{\text{total}}$					Γ_2/Γ
<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen		SARANTSEV 21	RVUE	$J/\psi \rightarrow \gamma (\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$	
$\Gamma(\eta\eta)/\Gamma_{\text{total}}$					Γ_3/Γ
<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen		SARANTSEV 21	RVUE	$J/\psi \rightarrow \gamma (\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$	
$\Gamma(\omega\phi)/\Gamma_{\text{total}}$					Γ_4/Γ
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen	7.2k	KHOLODENK..21	VES	$29 \pi^- p \rightarrow n\omega\phi$	
seen		SARANTSEV 21	RVUE	$J/\psi \rightarrow \gamma (\pi\pi, K\bar{K}, \eta\eta, \omega\phi)$	

$f_0(1770)$ REFERENCES

KHOLODENK...21	PAN 83 1602	M.S. Kholodenko	(VES Collab.)
SARANTSEV 21	PL B816 136227	A.V. Sarantsev <i>et al.</i>	(BONN, PNPI)
AAIJ 14BR	PR D89 092006	R. Aaij <i>et al.</i>	(LHCb Collab.)
ABLIKIM 13J	PR D87 032008	M. Ablikim <i>et al.</i>	(BESIII Collab.)
LIU 09	PR D79 071102	C. Liu <i>et al.</i>	(BELLE Collab.)
ABLIKIM 06J	PRL 96 162002	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM 05	PL B607 243	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM 05Q	PR D72 092002	M. Ablikim <i>et al.</i>	(BES Collab.)