

π(1800)

$$I^G(J^{PC}) = 1^-(0^{-+})$$

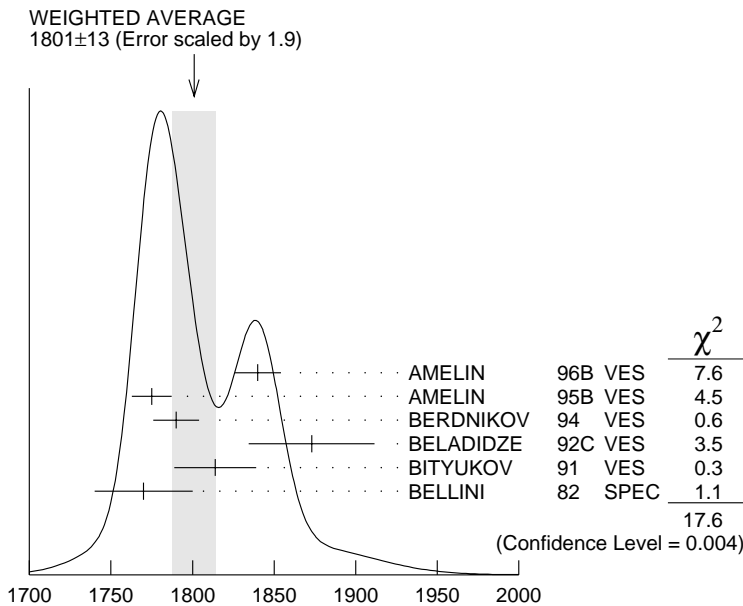
See also minireview under non- $q\bar{q}$ candidates. (See the index for the page number.)

π(1800) MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
1801±13 OUR AVERAGE Error includes scale factor of 1.9. See the ideogram below.					
1840±10±10	1200	AMELIN	96B	VES	— 37 π ⁻ A → ηηπ ⁻ A
1775± 7±10		¹ AMELIN	95B	VES	— 36 π ⁻ A → π ⁺ π ⁻ π ⁻ A
1790±14		² BERDNIKOV	94	VES	— 37 π ⁻ A → K ⁺ K ⁻ π ⁻ A
1873±33±20		BELADIDZE	92C	VES	— 36 π ⁻ Be → π ⁻ η'ηBe
1814±10±23	426± 57	BITYUKOV	91	VES	— 36 π ⁻ C → π ⁻ ηηC
1770±30	1100	BELLINI	82	SPEC	— 40 π ⁻ A → 3π A
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
1737± 5±15		AMELIN	99	VES	37 π ⁻ A → ω π ⁻ π ⁰ A*

¹ From a fit to $J^{PC} = 0^{-+}$ $f_0(980)\pi$, $f_0(1370)\pi$ waves.

² From a fit to $J^{PC} = 0^{-+}$ $K_0^*(1430)K^-$ and $f_0(980)\pi^-$ waves.



π(1800) mass (MeV)

$\pi(1800)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
210±15 OUR AVERAGE					
210±30±30	1200	AMELIN	96B	VES	— 37 $\pi^- A \rightarrow \eta\eta\pi^- A$
190±15±15		³ AMELIN	95B	VES	— 36 $\pi^- A \rightarrow \pi^+\pi^-\pi^- A$
210±70		⁴ BERDNIKOV	94	VES	— 37 $\pi^- A \rightarrow K^+K^-\pi^- A$
225±35±20		BELADIDZE	92C	VES	— 36 $\pi^- Be \rightarrow \pi^-\eta'\eta Be$
205±18±32	426±57	BITYUKOV	91	VES	— 36 $\pi^- C \rightarrow \pi^-\eta\eta C$
310±50	1100	BELLINI	82	SPEC	— 40 $\pi^- A \rightarrow 3\pi A$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
259±19±6		AMELIN	99	VES	37 $\pi^- A \rightarrow \omega\pi^-\pi^0 A^*$

³ From a fit to $J^{PC} = 0^{-+} f_0(980)\pi, f_0(1370)\pi$ waves.

⁴ From a fit to $J^{PC} = 0^{-+} K_0^*(1430)K^-, f_0(980)\pi^-$ waves.

$\pi(1800)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \pi^+\pi^-\pi^-$	seen
$\Gamma_2 \quad f_0(980)\pi^-$	seen
$\Gamma_3 \quad f_0(1370)\pi^-$	seen
$\Gamma_4 \quad \rho\pi^-$	not seen
$\Gamma_5 \quad \eta\eta\pi^-$	seen
$\Gamma_6 \quad a_0(980)\eta$	seen
$\Gamma_7 \quad f_0(1500)\pi^-$	seen
$\Gamma_8 \quad \eta\eta'(958)\pi^-$	seen
$\Gamma_9 \quad K_0^*(1430)K^-$	seen
$\Gamma_{10} \quad K^*(892)K^-$	not seen

$\pi(1800)$ BRANCHING RATIOS

$\Gamma(f_0(980)\pi^-)/\Gamma(f_0(1370)\pi^-)$		Γ_2/Γ_3			
VALUE	DOCUMENT ID	TECN	CHG	COMMENT	
1.7±1.3	AMELIN	95B	VES	— 36 $\pi^- A \rightarrow \pi^+\pi^-\pi^- A$	
$\Gamma(f_0(1370)\pi^-)/\Gamma_{\text{total}}$		Γ_3/Γ			
VALUE	DOCUMENT ID	TECN	CHG	COMMENT	
seen	BELLINI	82	SPEC	— 40 $\pi^- A \rightarrow 3\pi A$	
$\Gamma(\eta\eta\pi^-)/\Gamma(\pi^+\pi^-\pi^-)$		Γ_5/Γ_1			
VALUE	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
0.5 ±0.1	1200	AMELIN	96B	VES	— 37 $\pi^- A \rightarrow \eta\eta\pi^- A$

$\Gamma(f_0(1500)\pi^-)/\Gamma(a_0(980)\eta)$						Γ_7/Γ_6
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
0.08 ± 0.03	1200	⁵ AMELIN	96B	VES	—	37 $\pi^- A \rightarrow \eta\eta\pi^- A$

⁵ Assuming that $f_0(1500)$ decays only to $\eta\eta$ and $a_0(980)$ decays only to $\eta\pi$.

$\Gamma(\eta\eta'(958)\pi^-)/\Gamma(\eta\eta\pi^-)$						Γ_8/Γ_5
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
0.29 ± 0.06 OUR AVERAGE						
0.29 ± 0.07		BELADIDZE	92C	VES	—	36 $\pi^- Be \rightarrow \pi^- \eta' \eta Be$
0.3 ± 0.1	426 ± 57	BITYUKOV	91	VES	—	36 $\pi^- C \rightarrow \pi^- \eta\eta C$

$\Gamma(K_0^*(1430)K^-)/\Gamma_{total}$						Γ_9/Γ
<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
seen		BERDNIKOV	94	VES	—	37 $\pi^- A \rightarrow K^+ K^- \pi^- A$

$\Gamma(K^*(892)K^-)/\Gamma_{total}$						Γ_{10}/Γ
<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●						
not seen		BERDNIKOV	94	VES	—	37 $\pi^- A \rightarrow K^+ K^- \pi^- A$

$\Gamma(\rho\pi^-)/\Gamma(f_0(980)\pi^-)$						Γ_4/Γ_2
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●						
<0.14	90	AMELIN	95B	VES	—	36 $\pi^- A \rightarrow \pi^+ \pi^- \pi^- A$

$\Gamma(\rho\pi^-)/\Gamma_{total}$						Γ_4/Γ
<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
not seen		BELLINI	82	SPEC	—	40 $\pi^- A \rightarrow 3\pi A$

$\pi(1800)$ REFERENCES

AMELIN	99	PAN 62 445	D.V. Amelin <i>et al.</i>	(VES Collab.)
AMELIN	96B	PAN 59 976	D.V. Amelin <i>et al.</i>	(SERP, TBIL) IGJPC
AMELIN	95B	PL B356 595	D.V. Amelin <i>et al.</i>	(SERP, TBIL)
BERDNIKOV	94	PL B337 219	E.B. Berdnikov <i>et al.</i>	(SERP, TBIL)
BELADIDZE	92C	SJNP 55 1535	G.M. Beladidze, S.I. Bityukov, G.V. Borisov	(SERP+)
BITYUKOV	91	PL B268 137	S.I. Bityukov <i>et al.</i>	(SERP, TBIL)
BELLINI	82	PRL 48 1697	G. Bellini <i>et al.</i>	(MILA, BGNA, JINR)

OTHER RELATED PAPERS

LANDSBERG	99	SPU 42 871	L.G. Landsberg	
ZAIMIDOROGA	99	PAN 30 1	O.A. Zaimidoriga	
BORISOV	92	SJNP 55 1441	G.V. Borisov, S.S. Gershtein, A.M. Zaitsev	(SERP)