$f_2(1810)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\pi\pi$	$(21.0^{+\ 2.0}_{-\ 3.0})$ %
Γ_2	$\eta\eta$	$(\ 8.0^{+28.0}_{-\ 3.0}) \times 10^{-3}$
Γ_3	$4\pi^0$	
Γ_4	K^+K^-	$(\ 3.0^{+19.0}_{-\ 2.0}) \times 10^{-3}$

$f_2(1810)$ BRANCHING RATIOS

$\Gamma(\pi\pi)/\Gamma_{\text{total}}$ — Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$0.21\ ^{+0.02}_{-0.03}$	[5] LONGACRE	86	RVUE	Compilation
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.44 $\pm$0.03	[6] CASON	82	STRC	8 $\pi^+ p \rightarrow\ p\pi^+ 2\pi^0$

$\Gamma(\eta\eta)/\Gamma_{\text{total}}$ — Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$0.008\ ^{+0.028}_{-0.003}$	[5] LONGACRE	86	RVUE	Compilation

$\Gamma(K^+K^-)/\Gamma_{\text{total}}$ — Γ_4/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$0.003\ ^{+0.019}_{-0.002}$	[5] LONGACRE	86	RVUE	Compilation
• • • We do not use the following data for averages, fits, limits, etc. • • •				
seen	COSTA...	80	OMEG	10 $\pi^- p \rightarrow\ K^+K^- n$

[5] From a partial-wave analysis of data using a K-matrix formalism with 5 poles. Includes compilation of several other experiments.
[6] Included in LONGACRE 86 global analysis.

$f_2(1810)$ REFERENCES

ALDE 88 PL B201 160 +Bellazzini, Binon+ (SERP, BELG, LANL, LAPP, PISA)
ALDE 86D NP B269 485 +Binon, Bricman+ (BELG, LAPP, SERP, CERN)
LONGACRE 86 PL B177 223 +Etkin+ (BNL, BRAN, CUNY, DUKE, NDAM)
CASON 82 PRL 48 1316 +Biswas, Baumbaugh, Bishop+ (NDAM, ANL)
COSTA... 80 NP B175 402 Costa De Beauregard+ (BARI, BONN, CERN+)

OTHER RELATED PAPERS

AKER 91 PL B260 249 +Amsler, Peters+ (Crystal Barrel Collab.)
ALDE 88 PL B201 160 +Bellazzini, Binon+ (SERP, BELG, LANL, LAPP, PISA)
ALDE 86D NP B269 485 +Binon, Bricman+ (BELG, LAPP, SERP, CERN)
CASON 83 PR D28 1586 +Cannata, Baumbaugh, Bishop+ (NDAM, ANL)
ETKIN 82B PR D25 1786 +Foley, Lai+ (BNL, CUNY, TUFTS, VAND)

$X(1830)$

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

OMITTED FROM SUMMARY TABLE

Observed in coherent production on a carbon and beryllium nucleus. $J^{PC} = 1^{++}$ and 2^{-+} preferred. Needs confirmation.

$X(1830)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1832±27 OUR AVERAGE Error includes scale factor of 1.3.					
1873$\pm$33$\pm$20		BELADIDZE	92C	VES	36 π^- Be $\rightarrow\ \pi^-\eta'\eta$Be
1814$\pm$10$\pm$23	426$\pm$57	BITYUKOV	91	VES	36 π^- C $\rightarrow\ \pi^-\eta\eta$C

$X(1830)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
214±27 OUR AVERAGE					
225$\pm$35$\pm$20		BELADIDZE	92C	VES	36 π^- Be $\rightarrow\ \pi^-\eta'\eta$Be
205$\pm$18$\pm$32	426$\pm$57	BITYUKOV	91	VES	36 π^- C $\rightarrow\ \pi^-\eta\eta$C

$X(1830)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\pi\eta\eta$	
Γ_2	$\pi\eta\eta'(958)$	
Γ_3	$\pi f_0(1590)$	seen

$X(1830)$ BRANCHING RATIOS

$\Gamma(\pi\eta\eta'(958))/\Gamma(\pi\eta\eta)$ — Γ_2/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.29±0.06 OUR AVERAGE					
0.29$\pm$0.07		BELADIDZE	92C	VES	36 π^- Be $\rightarrow\ \pi^-\eta'\eta$Be
0.3 $\pm$0.1	426$\pm$57	BITYUKOV	91	VES	36 π^- C $\rightarrow\ \pi^-\eta\eta$C

$X(1830)$ REFERENCES

BELADIDZE 92C SJNP 55 1535 +Bityukov, Borisov (VES Collab.)
Translated from YAF 55 2748.
BITYUKOV 91 PL B268 137 +Borisov+ (SERP, TBIL)

OTHER RELATED PAPERS

BORISOV 92 SJNP 55 1441 +Gershtein, Zaitsev (SERP)
Translated from YAF 55 2583.

$\phi_3(1850)$

$I^G(J^{PC}) = 0^-(3^{--})$

Seen in the $K\overline{K}$ and $K\overline{K}\pi$ mass distributions.

$\phi_3(1850)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1854 $\pm$ 7 OUR AVERAGE					
1855 $\pm$10		ASTON	88E	LASS	11 $K^- p \rightarrow\ K^-K^+\Lambda$, $K^0_S K^\pm\pi^\mp\Lambda$
$1870.0^{+30.0}_{-20.0}$	430	ARMSTRONG	82	OMEG	18.5 $K^- p \rightarrow\ K^-K^+\Lambda$
1850.0$\pm$10.0	123	ALHARRAN	81B	HBC	8.25 $K^- p \rightarrow\ K\overline{K}\Lambda$

$\phi_3(1850)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
$87\ ^{+28}_{-23}$ OUR AVERAGE Error includes scale factor of 1.2.					
64 $\pm$31		ASTON	88E	LASS	11 $K^- p \rightarrow\ K^-K^+\Lambda$, $K^0_S K^\pm\pi^\mp\Lambda$
$160.0^{+90.0}_{-50.0}$	430	ARMSTRONG	82	OMEG	18.5 $K^- p \rightarrow\ K^-K^+\Lambda$
$80.0^{+40.0}_{-30.0}$	123	ALHARRAN	81B	HBC	8.25 $K^- p \rightarrow\ K\overline{K}\Lambda$

$\phi_3(1850)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\overline{K}$	seen
Γ_2	$K\overline{K}^*(892)+$ c.c.	seen

$\phi_3(1850)$ BRANCHING RATIOS

$\Gamma(K\overline{K}^*(892)+\text{c.c.})/\Gamma(K\overline{K})$ — Γ_2/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
$0.55^{+0.85}_{-0.45}$	ASTON	88E	LASS	11 $K^- p \rightarrow\ K^-K^+\Lambda$, $K^0_S K^\pm\pi^\mp\Lambda$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.8 $\pm$0.4	ALHARRAN	81B	HBC	8.25 $K^- p \rightarrow\ K\overline{K}\pi\Lambda$

$\phi_3(1850)$ REFERENCES

ASTON 88E PL B208 324 +Awaji, Biewz+ (SLAC, NAGO, CINC, INUS) IGJPC
ARMSTRONG 82 PL 110B 77 +Baubillier+ (BARI, BIRM, CERN, MILA, CURIN+) JP
ALHARRAN 81B PL 101B 357 +Amirzadeh+ (BIRM, CERN, GLAS, MICH, CURIN)

OTHER RELATED PAPERS

CORDIER 82B PL 110B 335 +Bisello, Bizot, Buon, Delcourt, Fayard+ (LALO)
ASTON 80B PL 92B 219 (BONN, CERN, EPOL, GLAS, LANC, MCHS+)