$K_2(1580)$

$I(J^P) = \frac{1}{2}(2^-)$

OMITTED FROM SUMMARY TABLE

Seen in partial-wave analysis of the $K^-\pi^+\pi^-$ system. Needs confirmation.

$K_2(1580)$ MASS

VALUE (MeV)	DOCUMENT ID		CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 1580	OTTER	79	−	10,14,16 $K^- p$

$K_2(1580)$ WIDTH

VALUE (MeV)	DOCUMENT ID		CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 110	OTTER	79	−	10,14,16 $K^- p$

$K_2(1580)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K^*(892)\pi$	seen
Γ_2	$K_2^*(1430)\pi$	possibly seen

$K_2(1580)$ BRANCHING RATIOS

$\Gamma(K^*(892)\pi)/\Gamma_{\rm total}$ **Γ_1/Γ**

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
seen	OTTER	79	HBC	−	10,14,16 $K^- p$

$\Gamma(K_2^*(1430)\pi)/\Gamma_{\rm total}$ **Γ_2/Γ**

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
possibly seen	OTTER	79	HBC	−	10,14,16 $K^- p$

$K_2(1580)$ REFERENCES

OTTER 79 NP B147 1 +Rudolph+ (AACH3, BERL, CERN, LOIC, WIEN) JP

$K_1(1650)$

$I(J^P) = \frac{1}{2}(1^+)$

OMITTED FROM SUMMARY TABLE

This entry contains various peaks in strange meson systems ($K^+\phi$, $K\pi\pi$) reported in partial-wave analysis in the 1600–1900 mass region.

$K_1(1650)$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
1650±50	FRAME	86	OMEG	+	13 $K^+ p \to \phi K^+ p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 1840	ARMSTRONG	83	OMEG	−	18.5 $K^- p \to 3Kp$
~ 1800	DAUM	81C	CNTR	−	63 $K^- p \to K^- 2\pi p$

$K_1(1650)$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
150±50	FRAME	86	OMEG	+	13 $K^+ p \to \phi K^+ p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 250	DAUM	81C	CNTR	−	63 $K^- p \to K^- 2\pi p$

$K_1(1650)$ DECAY MODES

	Mode
Γ_1	$K\pi\pi$
Γ_2	$K\phi$

$K_1(1650)$ REFERENCES

FRAME 86 NP B276 667 +Hughes, Lynch, Minto, McFadzean+ (GLAS)
ARMSTRONG 83 NP B221 1 + (BARI, BIRM, CERN, MILA, CURIN+)
DAUM 81C NP B187 1 +Hertzberger+ (AMST, CERN, CRAC, MPIM, OXF+)

$K^*(1680)$

$I(J^P) = \frac{1}{2}(1^-)$

$K^*(1680)$ MASS

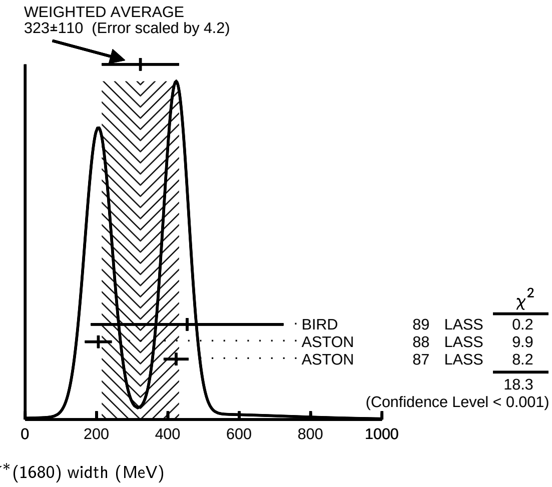
All from partial wave amplitude analyses.

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
1714±20 OUR AVERAGE	Error includes scale factor of 1.1.				
1678±64	BIRD	89	LASS	−	11 $K^- p \to \overline{K}^0\pi^- p$
1677±10±32	ASTON	88	LASS	0	11 $K^- p \to K^-\pi^+ n$
1735±10±20	ASTON	87	LASS	0	11 $K^- p \to \overline{K}^0\pi^+\pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1800±70	ETKIN	80	MPS	0	6 $K^- p \to \overline{K}^0\pi^+\pi^- n$
~ 1650	ESTABROOKS	78	ASPK	0	13 $K^\pm p \to K^\pm\pi^\pm n$

$K^*(1680)$ WIDTH

All from partial wave amplitude analyses.

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
323±110 OUR AVERAGE	Error includes scale factor of 4.2. See the ideogram below.				
454±270	BIRD	89	LASS	−	11 $K^- p \to \overline{K}^0\pi^- p$
205± 16±34	ASTON	88	LASS	0	11 $K^- p \to K^-\pi^+ n$
423± 18±30	ASTON	87	LASS	0	11 $K^- p \to \overline{K}^0\pi^+\pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
170± 30	ETKIN	80	MPS	0	6 $K^- p \to \overline{K}^0\pi^+\pi^- n$
250 to 300	ESTABROOKS	78	ASPK	0	13 $K^\pm p \to K^\pm\pi^\pm n$



$K^*(1680)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\pi$	(38.7 ± 2.5) %
Γ_2	$K\rho$	$(31.4^{+4.7}_{-2.1})$ %
Γ_3	$K^*(892)\pi$	$(29.9^{+2.2}_{-4.7})$ %

CONSTRAINED FIT INFORMATION

An overall fit to 4 branching ratios uses 4 measurements and one constraint to determine 3 parameters. The overall fit has a $\chi^2 =$ 2.9 for 2 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle\delta x_i \delta x_j\rangle/(\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i/\Gamma_{\rm total}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_2	−36	
x_3	−39	−72
	x_1	x_2