$K_1(1400)$

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

$K_1(1400)$ MASS

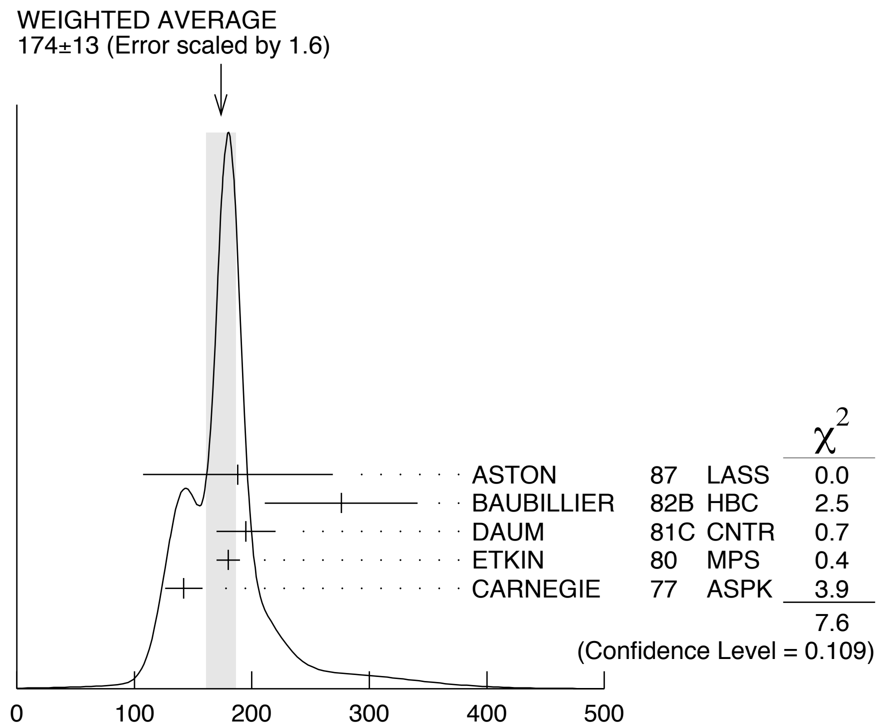
VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1402± 7 OUR AVERAGE						
1373±14±18		[1] ASTON	87	LASS	0	11 $K^- p \to \overline{K}^0 \pi^+ \pi^- n$
1392±18		BAUBILLIER	82B	HBC	0	8.25 $K^- p \to K^0_S \pi^+ \pi^- n$
1410±25		DAUM	81C	CNTR	−	63 $K^- p \to K^- 2\pi p$
1415±15		ETKIN	80	MPS	0	6 $K^- p \to \overline{K}^0 \pi^+ \pi^- n$
1404±10		[2] CARNEGIE	77	ASPK	±	13 $K^\pm p \to (K\pi\pi)^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1418± 8	25k	[3] ABLIKIM	06C	BES2		$J/\psi \to \overline{K}^*(892)^0 K^+ \pi^-$
∼ 1350		[4] TORNQVIST	82B	RVUE		
∼ 1400		VERGEEST	79	HBC	−	4.2 $K^- p \to (\overline{K}\pi\pi)^- p$
∼ 1400		BRANDENB...	76	ASPK	±	13 $K^\pm p \to (K\pi\pi)^\pm p$
1420		DAVIS	72	HBC	+	12 $K^+ p$
1368±18		FIRESTONE	72B	DBC	+	12 $K^+ d$

[1] From partial-wave analysis of $K^0 \pi^+ \pi^-$ system.
[2] From a model-dependent fit with Gaussian background to BRANDENBURG 76 data.
[3] Systematic errors not estimated.
[4] From a unitarized quark-model calculation.

$K_1(1400)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
174±13 OUR AVERAGE		Error includes scale factor of 1.6. See the ideogram below.				
188±54±60		[5] ASTON	87	LASS	0	11 $K^- p \to \overline{K}^0 \pi^+ \pi^- n$
276±65		BAUBILLIER	82B	HBC	0	8.25 $K^- p \to K^0_S \pi^+ \pi^- n$
195±25		DAUM	81C	CNTR	−	63 $K^- p \to K^- 2\pi p$
180±10		ETKIN	80	MPS	0	6 $K^- p \to \overline{K}^0 \pi^+ \pi^- n$
142±16		[6] CARNEGIE	77	ASPK	±	13 $K^\pm p \to (K\pi\pi)^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
152±16	25k	[7] ABLIKIM	06C	BES2		$J/\psi \to \overline{K}^*(892)^0 K^+ \pi^-$
∼ 200		VERGEEST	79	HBC	−	4.2 $K^- p \to (\overline{K}\pi\pi)^- p$
∼ 160		BRANDENB...	76	ASPK	±	13 $K^\pm p \to (K\pi\pi)^\pm p$
80		DAVIS	72	HBC	+	12 $K^+ p$
241±30		FIRESTONE	72B	DBC	+	12 $K^+ d$

[5] From partial-wave analysis of $K^0\pi^+\pi^-$ system.
[6] From a model-dependent fit with Gaussian background to BRANDENBURG 76 data.
[7] Systematic errors not estimated.



$K_1(1400)$ width (MeV)

$K_1(1400)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K^*(892)\pi$	(94 ± 6) %
Γ_2	$K\rho$	(3.0 ± 3.0) %
Γ_3	$K f_0(1370)$	(2.0 ± 2.0) %
Γ_4	$K\omega$	(1.0 ± 1.0) %
Γ_5	$K_0^*(1430)\pi$	not seen
Γ_6	γK^0	seen

$K_1(1400)$ PARTIAL WIDTHS

$\Gamma(K^*(892)\pi)$ — Γ_1

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
117±10	CARNEGIE	77	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$

$\Gamma(K\rho)$ — Γ_2

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
2±1	CARNEGIE	77	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$

$\Gamma(K\omega)$ — Γ_4

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
23±12	CARNEGIE	77	ASPK	±	13 $K^{\pm} p \to (K\pi\pi)^{\pm} p$

$\Gamma(\gamma K^0)$ — Γ_6

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
280.8±23.2±40.4	ALAVI-HARATI	02B	KTEV	$K + A \to K^* + A$

$K_1(1400)$ BRANCHING RATIOS

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.94±0.06	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

$\Gamma(K\rho)/\Gamma_{total}$ — Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.03±0.03	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

$\Gamma(K f_0(1370))/\Gamma_{total}$ — Γ_3/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.02±0.02	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

$\Gamma(K\omega)/\Gamma_{total}$ — Γ_4/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.01±0.01	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

$\Gamma(K_0^*(1430)\pi)/\Gamma_{total}$ — Γ_5/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
not seen	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

D-wave/S-wave RATIO FOR $K_1(1400) \to K^*(892)\pi$

VALUE	DOCUMENT ID		TECN	COMMENT
0.04±0.01	[8] DAUM	81C	CNTR	63 $K^- p \to K^- 2\pi p$

[8] Average from low and high t data.

$K_1(1400)$ REFERENCES

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ALAVI-HARATI	02B	PRL 89 072001	A. Alavi-Harati et al.	(FNAL KTeV Collab.)
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