NODE=M064

$K_1(1400)$

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

$K_1(1400)$ MASS

NODE=M064205

NODE=M064M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1403± 7 OUR AVERAGE						
1463±64±68	7k	ASNER	00B	CLEO	±	$\tau^- \rightarrow K^- \pi^+ \pi^- \nu_\tau$
1373±14±18		[1] ASTON	87	LASS	0	11 $K^- p \rightarrow \overline{K}^0 \pi^+ \pi^- n$
1392±18		BAUBILLIER	82B	HBC	0	8.25 $K^- p \rightarrow K^0_S \pi^+ \pi^- n$
1410±25		DAUM	81C	CNTR	−	63 $K^- p \rightarrow K^- 2\pi p$
1415±15		ETKIN	80	MPS	0	6 $K^- p \rightarrow \overline{K}^0 \pi^+ \pi^- n$
1404±10		[2] CARNEGIE	77	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1418± 8	25k	[3] ABLIKIM	06C	BES2		$J/\psi \rightarrow \overline{K}^*(892)^0 K^+ \pi^-$
∼ 1350		[4] TORNQVIST	82B	RVUE		
∼ 1400		VERGEEST	79	HBC	−	4.2 $K^- p \rightarrow (\overline{K}\pi\pi)^- p$
∼ 1400		BRANDENB...	76	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
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.

NODE=M064M;LINKAGE=P
NODE=M064M;LINKAGE=E
NODE=M064M;LINKAGE=AB
NODE=M064M;LINKAGE=T

$K_1(1400)$ WIDTH

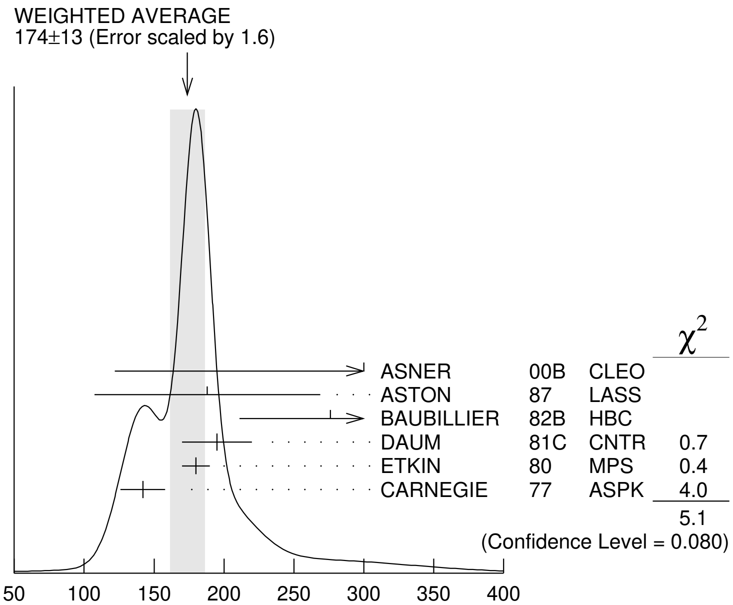
NODE=M064210

NODE=M064W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
174± 13 OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below.						
300^{+370}_{-110}±140	7k	ASNER	00B	CLEO	±	$\tau^- \rightarrow K^- \pi^+ \pi^- \nu_\tau$
188± 54± 60		[5] ASTON	87	LASS	0	11 $K^- p \rightarrow \overline{K}^0 \pi^+ \pi^- n$
276± 65		BAUBILLIER	82B	HBC	0	8.25 $K^- p \rightarrow K^0_S \pi^+ \pi^- n$
195± 25		DAUM	81C	CNTR	−	63 $K^- p \rightarrow K^- 2\pi p$
180± 10		ETKIN	80	MPS	0	6 $K^- p \rightarrow \overline{K}^0 \pi^+ \pi^- n$
142± 16		[6] CARNEGIE	77	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
152± 16	25k	[7] ABLIKIM	06C	BES2		$J/\psi \rightarrow \overline{K}^*(892)^0 K^+ \pi^-$
∼ 200		VERGEEST	79	HBC	−	4.2 $K^- p \rightarrow (\overline{K}\pi\pi)^- p$
∼ 160		BRANDENB...	76	ASPK	±	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
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.

NODE=M064W;LINKAGE=P
NODE=M064W;LINKAGE=E
NODE=M064W;LINKAGE=AB



$K_1(1400)$ width (MeV)

$K_1(1400)$ DECAY MODES

NODE=M064215;NODE=M064

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$K^*(892)\pi$	(94 ±6) %	DESIG=1
Γ_2	$K\rho$	(3.0±3.0) %	DESIG=2
Γ_3	$K f_0(1370)$	(2.0±2.0) %	DESIG=8
Γ_4	$K\omega$	(1.0±1.0) %	DESIG=5
Γ_5	$K_0^*(1430)\pi$	not seen	DESIG=7;OUR EST;→ NOT CHECKED ←
Γ_6	γK^0	seen	DESIG=9;OUR EST;→ NOT CHECKED ←

$K_1(1400)$ PARTIAL WIDTHS

NODE=M064220

$\Gamma(K^*(892)\pi)$ Γ_1

NODE=M064W1
NODE=M064W1

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

NODE=M064W2
NODE=M064W2

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

NODE=M064W5
NODE=M064W5

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

$\Gamma(\gamma K^0)$ Γ_6

NODE=M064W6
NODE=M064W6

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

$K_1(1400)$ BRANCHING RATIOS

NODE=M064225

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

NODE=M064R1
NODE=M064R1

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

$\Gamma(K\rho)/\Gamma_{total}$ Γ_2/Γ

NODE=M064R2
NODE=M064R2

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

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

NODE=M064R5
NODE=M064R5

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

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

NODE=M064R3
NODE=M064R3

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

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

NODE=M064R4
NODE=M064R4

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

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

NODE=M064R9
NODE=M064R9

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

[8] Average from low and high t data.

NODE=M064R;LINKAGE=F

$K_1(1400)$ REFERENCES

NODE=M064

ABLIKIM	06C	PL B633 681	M. Ablikim *et al.*	(BES Collab.)	REFID=51037
ALAVI-HARATI	02B	PRL 89 072001	A. Alavi-Harati *et al.*	(FNAL KTeV Collab.)	REFID=48822
ASNER	00B	PR D62 072006	D.M. Asner *et al.*	(CLEO Collab.)	REFID=47766
ASTON	87	NP B292 693	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)	REFID=40234
BAUBILLIER	82B	NP B202 21	M. Baubillier *et al.*	(BIRM, CERN, GLAS+)	REFID=22551
TORNQVIST	82B	NP B203 268	N.A. Tornqvist	(HELS)	REFID=20573
DAUM	81C	NP B187 1	C. Daum *et al.*	(AMST, CERN, CRAC, MPIM+)	REFID=22548
ETKIN	80	PR D22 42	A. Etkin *et al.*	(BNL, CUNY) JP	REFID=22545
VERGEEST	79	NP B158 265	J.S.M. Vergeest *et al.*	(NIJM, AMST, CERN+)	REFID=22542
CARNEGIE	77	NP B127 509	R.K. Carnegie *et al.*	(SLAC)	REFID=22535
BRANDENB...	76	PRL 36 703	G.W. Brandenburg *et al.*	(SLAC) JP	REFID=22532
DAVIS	72	PR D5 2688	P.J. Davis *et al.*	(LBL)	REFID=22505
FIRESTONE	72B	PR D5 505	A. Firestone *et al.*	(LBL)	REFID=22506

OTHER RELATED PAPERS

ABLIKIM	05Q	PR D72 092002	M. Ablikim *et al.*	(BES Collab.)	REFID=50958
SUZUKI	93	PR D47 1252	M. Suzuki	(LBL)	REFID=43308
FERNANDEZ	82	ZPHY C16 95	C. Fernandez *et al.*	(MADR, CERN, CDEF+)	REFID=22552
SHEN	66	PRL 17 726	B.C. Shen *et al.*	(LRL)	REFID=22469
Also		Private Comm.	G. Goldhaber	(LRL)	REFID=22470
ALMEIDA	65	PL 16 184	S.P. Almeida *et al.*	(CAVE)	REFID=22468
ARMENTEROS	64	PL 9 207	R. Armenteros *et al.*	(CERN, CDEF)	REFID=22466
Also		PR 145 1095	N. Barash *et al.*	(COLU)	REFID=22467