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

K1(1270) MASS

VALUE (MeV)	DOCUMEN	T ID				
1272 \pm 7 OUR AVER	RAGE Includes	data fron	n the 2	datablo	cks that	follow this one.
			~ * * * *			
PRODUCED BY	K, BACKV	VARD 50				
VALUE (MeV)	$\frac{EVIS}{1}$ $\frac{DC}{1}$	CUMENT I)	TECN	<u>CHG</u> .	
The data in this bloc	ck is included in	the avera	age prin	ted for	a previoi	us datablock.
1275+10	700 GA	VILLET	78	HBC	+ 4	$12 K^{-} n \rightarrow$
	100 0,		10	nec	I	$\Xi^{-}(K\pi\pi)^{+}$
						()
PRODUCED BY	K BEAMS	- 15			. .	
VALUE (MeV)	DOCUMEN	<u>I ID</u>	<u>TECN</u>	CHG	COMME	N/
I he data in this bloc	ck is included in	the avera	age prin	ted for	a previoi	us datablock.
1070 ± 10		010			62 K-	- K= 2
	DAUM	010	CNTR		03 A	$p \rightarrow \kappa 2\pi p$
• • • We do not use	e the following	data for a	verages	, fits, lir	nits, etc	. • • •
~ 1276	¹ TORNQV	/IST 82B	RVUE			
~ 1300	VERGEES	ST 79	HBC	_	4.2 K	$p \rightarrow (\overline{K}\pi\pi)^{-}p$
$1289\!\pm\!25$	² CARNEG	IE 77	ASPK	±	13 K $^\pm$	$p \rightarrow (K \pi \pi)^{\pm} p$
~ 1300	BRANDE	NB 76	ASPK	±	13 K $^\pm$	$p \rightarrow (K \pi \pi)^{\pm} p$
~ 1270	OTTER	76	HBC	_	10,14,1	6 $K^- p \rightarrow$
					$(\overline{K}\pi$	$(\pi \pi)^{-} p$
1260	DAVIS	72	HBC	+	12 K ⁺	р
1234 ± 12	FIRESTO	NE 72B	DBC	+	12 K ⁺	d
¹ From a unitarize	d quark-model	calculation	۱.			

 $^2\,{\rm From}$ a model-dependent fit with Gaussian background to BRANDENBURG 76 data.

PRODUCED BY BEAMS OTHER THAN K MESONS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do no	ot use the	following data for	avera	ages, fits	s, limit	s, etc. ● ● ●
1279 ± 10	25k	³ ABLIKIM	06 C	BES2		$J/\psi \rightarrow \overline{K}^*(892)^0 K^+ \pi^-$
$1294\!\pm\!10$	310	RODEBACK	81	HBC		$4 \pi^- p \rightarrow \Lambda K 2\pi$
1300	40	CRENNELL	72	HBC	0	$4.5 \pi^{-} p \rightarrow \Lambda K 2\pi$
$1242^{+\ 9}_{-10}$		⁴ ASTIER	69	HBC	0	<u>p</u> p
1300	45	CRENNELL	67	HBC	0	$6 \pi^- p \rightarrow \Lambda K 2\pi$
 ³Systematic errors not estimated. ⁴This was called the <i>C</i> meson. 						

*K*₁(1270) WIDTH

 $\frac{VALUE (MeV)}{90\pm 20 \text{ OUR ESTIMATE}} \xrightarrow{DOCUMENT ID}$ This is only an educated guess; the error given is larger than the error on the average of the published values.

87± 7 OUR AVERAGE Includes data from the 2 datablocks that follow this one.

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PRODUCED BY	K ⁻ , BAC	KWARD S	CATTE	ERING,	HYP	ERON EXCHANGE
VALUE (MeV)	EVIS	DOCUMENT	D	TECN	CHG	COMMENT
The data in this bloc	ck is include	d in the aver	age prin	ted for a	a previo	ous datablock.
75±15	700	GAVILLET	78	HBC	+	4.2 $K^- p \rightarrow$
						$\Xi^- K \pi \pi$
		-				
PRODUCED BY	K BEAM	S				
VALUE (MeV)	DOCUN	AENT ID	TECN	CHG	СОММ	ENT
The data in this bloc	ck is include	d in the aver	age prin	ted for a	a previo	ous datablock.
90± 8	DAUN	1 81	CNTR	_	63 K ⁻	$p \rightarrow K^{-} 2\pi p$
• • • We do not use	e the followi	ng data for a	averages,	fits, lin	nits, et	C. ● ● ●
~ 150	VERG	EEST 79	НВС	_	4.2 K	$p \rightarrow (\overline{K}\pi\pi)^{-}p$
150 ± 71	⁵ CARN	FGIF 77	ASPK	+	13 K [±]	$= p \rightarrow (K\pi\pi)^{\pm} p$
~ 200	BRAN	IDENIB 76	ASPK		13 K [±]	$= p \rightarrow (K \pi \pi)^{\pm} p$
100		DEND 70			10 K	$p \rightarrow (R \pi \pi) p$
120	DAVIS) 72	HRC	+	12 K	p
188 ± 21	FIRES	TONE 72	b DBC	+	12 K^+	⁻ d
5 From a model-dependent fit with Gaussian background to <code>BRANDENBURG</code> 76 data.						
					CRIV	
VALUE (MeV) EVI	<u> </u>	CUMENTID	160	. <u>N CH</u>	<u> </u>	VIVIENT
⁵ From a model-de PRODUCED BY <u>VALUE (MeV)</u> EVT	ependent fit BEAMS (<u>TS</u> <u>DO</u> a the followi	with Gaussia DTHER TH CUMENT ID	an backg IAN <i>K</i>	mound to MESC <u>CN</u> <u>CH</u> fite line	o BRA NS <u>G COI</u>	NDENBURG 76 data.

ullet $ullet$ $ullet$ We do not use the following data for averages, fits, limits, etc. $ullet$ $ullet$								
$131\!\pm\!21$	25k	⁶ ABLIKIM	06c BES2		$J/\psi \rightarrow \overline{K}^*(892)^0 K^+ \pi^-$			
66 ± 15	310	RODEBACK	81 HBC		$4 \pi^- p \rightarrow \Lambda K 2\pi$			
60	40	CRENNELL	72 HBC	0	4.5 $\pi^- p \rightarrow \Lambda K 2\pi$			
$127^{+}_{-25}^{7}$		ASTIER	69 HBC	0	р р			
60	45	CRENNELL	67 HBC	0	$6 \pi^- p \rightarrow \Lambda K 2\pi$			
⁶ Systematic errors not estimated.								

K₁(1270) DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ ₁ Γ ₂ Γ ₃ Γ ₄	$K \rho$ $K_0^*(1430) \pi$ $K^*(892) \pi$ $K \omega$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Г ₅ Г ₆	<i>Κ</i> f ₀ (1370) γ <i>Κ</i> ⁰	(3.0±2.0) % seen

K₁(1270) PARTIAL WIDTHS

Γ(<i>K</i> ρ)					Γ1
VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
\bullet \bullet \bullet We do not use the	following data t	for av	/erages,	fits, lir	nits, etc. • • •
57±5	MAZZUCATO	79	HBC	+	4.2 $K^- p \rightarrow \Xi^- (K \pi \pi)^+$
75±6	CARNEGIE	77 B	ASPK	±	13 $K^{\pm} p \rightarrow (K \pi \pi)^{\pm} p$
HTTP://PDG.LBL.G	OV	Pag	e 2		Created: 7/6/2006 16:34

Citation: W.-M. Yao et al. (Particle Data Group), J. Phys. G $\mathbf{33}$, 1 (2006) (URL: http://pdg.lbl.gov)

Γ(<i>K</i> *(1430)π)		Г2
VALUE (MeV)	DOCUMENT ID TECN CHG COMMENT	
• • • We do not use	the following data for averages, fits, limits, etc. \bullet \bullet	
26±6	CARNEGIE 77B ASPK \pm 13 $K^{\pm} p \rightarrow (K \pi \pi)$) [±] р
Г(<i>К</i> *(892) <i>π</i>)		Гз
VALUE (MeV)	DOCUMENT ID TECN CHG COMMENT	
• • • We do not use	the following data for averages, fits, limits, etc. \bullet \bullet	
14 ± 11	MAZZUCATO 79 HBC + 4.2 $K^- p \rightarrow \Xi^- (R)$	$(K_{\pi}\pi)^+$
2 ± 2	CARNEGIE 77B ASPK \pm 13 $K^{\pm} p \rightarrow (K \pi \pi)$) [±] р
Γ(Κω)		Γ ₄
VALUE (MeV)	DOCUMENT ID TECN CHG COMMENT	
• • • We do not use	the following data for averages, fits, limits, etc. $ullet$ $ullet$	
4±4	MAZZUCATO 79 HBC + 4.2 $K^- p \rightarrow \Xi^- (R)$	$(K\pi\pi)^+$
24±3	CARNEGIE 77B ASPK \pm 13 $K^{\pm} p \rightarrow (K \pi \pi$) [±] р
Г(<i>К f</i> ₀(1370))		Г5
VALUE (MeV)	DOCUMENT ID TECN CHG COMMENT	
• • • We do not use	the following data for averages, fits, limits, etc. $ullet$ $ullet$	
22±5	CARNEGIE 77B ASPK \pm 13 K^{\pm} $p \rightarrow$ ($K \pi \pi$) [±] р
Г(<i>үК</i> ⁰)		Г _б
VALUE (keV)	DOCUMENT ID TECN COMMENT	
73.2± 6.1±28.3	ALAVI-HARATI02B KTEV $K + A \rightarrow K$	* + A
	$K_1(1270)$ BRANCHING RATIOS	
$\Gamma(K\rho)/\Gamma_{total}$		Γ_1/Γ
VALUE	DOCUMENT ID TECN COMMENT	
0.42±0.06	⁷ DAUM 81C CNTR 63 $K^- p \rightarrow K^- 2\pi p$	
• • • We do not use	the following data for averages, fits, limits, etc. \bullet \bullet	
dominant	RODEBACK 81 HBC 4 $\pi^- p \rightarrow \Lambda K 2 \pi$	
$\Gamma(K_0^*(1430)\pi)/\Gamma_{td}$	otal	Г ₂ /Г
VALUE	DOCUMENT ID TECN COMMENT	
0.28±0.04	⁷ DAUM 81C CNTR 63 $K^- p \rightarrow K^- 2\pi p$	
F(K*(000)_)/F		Г./Г

$\Gamma(K^{*}(892)\pi)/\Gamma_{t}$	otal				l 3/l
VALUE	DOCUMENT ID	TE	<u>COM</u>	1MENT	
0.16±0.05	⁷ DAUM	81C C	NTR 63 H	$K^- p \rightarrow K^- 2\pi p$	
$\Gamma(\kappa\omega)/\Gamma_{total}$					Γ₄/Γ
VALUE	DOCUMENT ID	TE	<u>COM</u>	1MENT	
0.11±0.02	⁷ DAUM	81C C	NTR 63 H	$K^- p \rightarrow K^- 2\pi p$	

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Citation: W.-M. Yao et al. (Particle Data Group), J. Phys. G $\mathbf{33}$, 1 (2006) (URL: http://pdg.lbl.gov)

$\Gamma(K\omega)/\Gamma(K\rho)$								Γ_4/Γ_1
VALUE	<u>CL%</u>	DOCUMEN	T ID	TE	CN	COMMEN	IT	
• • • We do not u	ise the foll	owing data f	for ave	erages,	fits, li	mits, etc	. • • •	
<0.30	95	RODEBA	CK	81 H	BC	$4 \pi^{-} p$	$\rightarrow \Lambda K 2\pi$	
F(K f₀(1370))/I	total	CUMENT ID	-	TECN	СОМІ	MENT		Г ₅ /Г
0.03±0.02	7 DA	UM	81C C	INTR	63 K	$p \rightarrow p$	K 2π p	
D-wave/S-wave	RATIO I	OR <i>K</i> 1(12	270) ·	→ <i>K</i> *	*(892	2) π		
VALUE	DO	CUMENT ID	7	TECN	COMI	MENT		<u> </u>
1.0±0.7	⁷ DA	UM	81C (ONTR	63 K	$r^- p \rightarrow$	$K^{-}2\pi p$	
⁷ Average from I	ow and hig	gh <i>t</i> data.						

K₁(1270) REFERENCES

ABLIKIM	06C	PL B633 681	M. Ablikim <i>et al.</i>	(BES Collab.)			
ALAVI-HARATI	02B	PRL 89 072001	A. Alavi-Harati <i>et al.</i>	(FNAL ŘTeV Collab.)			
TORNQVIST	82B	NP B203 268	N.A. Tornqvist) (HELS)			
DAUM	81C	NP B187 1	C. Daum et al.	(AMST, CERN, CRAC, MPIM+)			
RODEBACK	81	ZPHY C9 9	S. Rodeback et al.	(CERN, CDEF, MADR+)			
MAZZUCATO	79	NP B156 532	M. Mazzucato <i>et al.</i>	(CERN, ZEEM, NIJM+)			
VERGEEST	79	NP B158 265	J.S.M. Vergeest et al.	(NIJM, AMST, CERN+)			
GAVILLET	78	PL 76B 517	P. Gavillet <i>et al.</i>	(AMST, CERN, NIJM+) JP			
CARNEGIE	77	NP B127 509	R.K. Carnegie <i>et al.</i>	(SLAC)			
CARNEGIE	77B	PL 68B 287	R.K. Carnegie <i>et al.</i>	(SLAC)			
BRANDENB	76	PRL 26 703	G.W. Brandenburg et al.	(SLAC) JP			
OTTER	76	NP B106 77	G. Otter <i>et al.</i>	(AACH3, BERL, CERN, LOIC+) JP			
CRENNELL	72	PR D6 1220	D.J. Crennell et al.	(BNL)			
DAVIS	72	PR D5 2688	P.J. Davis <i>et al.</i>	(LBL)			
FIRESTONE	72B	PR D5 505	A. Firestone et al.	(LBL)			
ASTIER	69	NP B10 65	A. Astier <i>et al.</i>	(CDEF, CERN, IPNP, LIVP) IJP			
CRENNELL	67	PRL 19 44	D.J. Crennell <i>et al.</i>	(BNL) I			
OTHER RELATED PAPERS							
ABLIKIM	05Q	PR D72 092002	M. Ablikim <i>et al.</i>	(BES Collab.)			

ABLIKIM	05Q	PR D72 092002	M. Ablikim <i>et al.</i>	(BES Collab.)
SUZUKI	93	PR D47 1252	M. Suzuki	` (LBL)
BAUBILLIER	82B	NP B202 21	M. Baubillier <i>et al.</i>	(BIRM, CERN, GLAS+)
FERNANDEZ	82	ZPHY C16 95	C. Fernandez <i>et al.</i>	(MADR, CERN, CDEF+) JP
GAVILLET	82	ZPHY C16 119	P. Gavillet <i>et al.</i>	(CERN, CDEF, PADO+)
SHEN	66	PRL 17 726	B.C. Shen <i>et al.</i>	(LRL)
Also		Private Comm.	G. Goldhaber	(LRL)
ALMEIDA	65	PL 16 184	S.P. Almeida <i>et al.</i>	(CAVE)
ARMENTEROS	64	PL 9 207	R. Armenteros <i>et al.</i>	(CERN, CDEF)
Also		PR 145 1095	N. Barash <i>et al.</i>	(COLU)

HTTP://PDG.LBL.GOV