NODE=M035

$K_4^*(2045)$

$I(J^P) = \frac{1}{2}(4^+)$

$K_4^*(2045)$ MASS

NODE=M035M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
$2048^{+\ 8}_{-\ 9}$ OUR AVERAGE Error includes scale factor of 1.1.						
$2090 \pm 9^{+11}_{-29}$	183k	ABLIKIM	19AQ	BES	$\pm$	$J/\psi \to K^+ K^- \pi^0$
$2062 \pm 14 \pm 13$		[1] ASTON	86	LASS	0	11 $K^- p \to K^- \pi^+ n$
2039 ± 10	400	[2,3] CLELAND	82	SPEC	$\pm$	50 $K^+ p \to K^0_S \pi^\pm p$
$2070^{+100}_{-\ 40}$		[4] ASTON	81C	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
2079 ± 7	431	TORRES	86	MPSF		400 pA $\to 4K$X
2088 ± 20	650	BAUBILLIER	82	HBC	$-$	8.25 $K^- p \to K^0_S \pi^- p$
2115 ± 46	488	CARMONY	77	HBC	0	9 $K^+ d \to K^+ \pi$'s X

[1] From a fit to all moments. NODE=M035M;LINKAGE=E
[2] From a fit to 8 moments. NODE=M035M;LINKAGE=B
[3] Number of events evaluated by us. NODE=M035M;LINKAGE=W
[4] From energy-independent partial-wave analysis. NODE=M035M;LINKAGE=D

$K_4^*(2045)$ WIDTH

NODE=M035W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
$199^{+\ 27}_{-\ 19}$ OUR AVERAGE						
$201 \pm 19^{+57}_{-17}$	183k	ABLIKIM	19AQ	BES	$\pm$	$J/\psi \to K^+ K^- \pi^0$
$221 \pm 48 \pm 27$		[5] ASTON	86	LASS	0	11 $K^- p \to K^- \pi^+ n$
189 ± 35	400	[6,7] CLELAND	82	SPEC	$\pm$	50 $K^+ p \to K^0_S \pi^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
61 ± 58	431	TORRES	86	MPSF		400 pA $\to 4K$X
$170^{+100}_{-\ 50}$	650	BAUBILLIER	82	HBC	$-$	8.25 $K^- p \to K^0_S \pi^- p$
240^{+500}_{-100}		[8] ASTON	81C	LASS	0	11 $K^- p \to K^- \pi^+ n$
300 ± 200		CARMONY	77	HBC	0	9 $K^+ d \to K^+ \pi$'s X

[5] From a fit to all moments. NODE=M035W;LINKAGE=E
[6] From a fit to 8 moments. NODE=M035W;LINKAGE=B
[7] Number of events evaluated by us. NODE=M035W;LINKAGE=W
[8] From energy-independent partial-wave analysis. NODE=M035W;LINKAGE=D

$K_4^*(2045)$ DECAY MODES

NODE=M035215;NODE=M035

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$K\pi$	(9.9 $\pm$ 1.2) %	DESIG=1
Γ_2	$K^*(892)\pi\pi$	(9 $\pm$5) %	DESIG=2
Γ_3	$K^*(892)\pi\pi\pi$	(7 $\pm$5) %	DESIG=5
Γ_4	$\rho K\pi$	(5.7 $\pm$ 3.2) %	DESIG=3
Γ_5	$\omega K\pi$	(5.0 $\pm$ 3.0) %	DESIG=4
Γ_6	$\phi K\pi$	(2.8 $\pm$ 1.4) %	DESIG=6
Γ_7	$\phi K^*(892)$	(1.4 $\pm$ 0.7) %	DESIG=7

$K_4^*(2045)$ BRANCHING RATIOS

NODE=M035220

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

NODE=M035R1

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.099 $\pm$ 0.012	ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$

NODE=M035R1

$\Gamma(K^*(892)\pi\pi)/\Gamma(K\pi)$ **Γ_2/Γ_1**

NODE=M035R2

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.89 $\pm$ 0.53	BAUBILLIER	82	HBC	$-$	8.25 $K^- p \to p K^0_S 3\pi$

NODE=M035R2

$\Gamma(K^*(892)\pi\pi\pi)/\Gamma(K\pi)$ Γ_3/Γ_1

NODE=M035R5
NODE=M035R5

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.75±0.49	BAUBILLIER	82	HBC	–	8.25 $K^- p \rightarrow p K^0_S 3\pi$

$\Gamma(\rho K\pi)/\Gamma(K\pi)$ Γ_4/Γ_1

NODE=M035R3
NODE=M035R3

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.58±0.32	BAUBILLIER	82	HBC	–	8.25 $K^- p \rightarrow p K^0_S 3\pi$

$\Gamma(\omega K\pi)/\Gamma(K\pi)$ Γ_5/Γ_1

NODE=M035R4
NODE=M035R4

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.50±0.30	BAUBILLIER	82	HBC	–	8.25 $K^- p \rightarrow p K^0_S 3\pi$

$\Gamma(\phi K\pi)/\Gamma_{\text{total}}$ Γ_6/Γ

NODE=M035R6
NODE=M035R6

VALUE	DOCUMENT ID		TECN	COMMENT
0.028±0.014	[9] TORRES	86	MPSF	400 pA $\rightarrow$ $4K$X

$\Gamma(\phi K^*(892))/\Gamma_{\text{total}}$ Γ_7/Γ

NODE=M035R7
NODE=M035R7

VALUE	DOCUMENT ID		TECN	COMMENT
0.014±0.007	[9] TORRES	86	MPSF	400 pA $\rightarrow$ $4K$X

[9] Error determination is model dependent.

NODE=M035R;LINKAGE=A

$K_4^*(2045)$ REFERENCES

NODE=M035

ABLIKIM	19AQ	PR D100 032004	M. Ablikim *et al.*	(BESIII Collab.)
ASTON	88	NP B296 493	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)
ASTON	86	PL B180 308	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)
TORRES	86	PR D34 707	S. Torres *et al.*	(VPI, ARIZ, FNAL, FSU+)
BAUBILLIER	82	PL 118B 447	M. Baubillier *et al.*	(BIRM, CERN, GLAS+)
CLELAND	82	NP B208 189	W.E. Cleland *et al.*	(DURH, GEVA, LAUS+)
ASTON	81C	PL 106B 235	D. Aston *et al.*	(SLAC, CARL, OTTA) JP
CARMONY	77	PR D16 1251	D.D. Carmony *et al.*	(PURD, UCD, IUPU)

REFID=59909
REFID=40262
REFID=22462
REFID=22845
REFID=22842
REFID=22455
REFID=22821
REFID=22811