$K_4^*(2045)$

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

$K_4^*(2045)$ MASS

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		$400\ pA \to 4KX$
2088 ± 20	650	BAUBILLIER	82	HBC	$-$	$8.25\ K^- p \to K^0_S \pi^- p$
2115 ± 46	488	CARMONY	77	HBC	0	$9\ K^+ d \to K^+ \pi\text{'s}\ X$

[1] From a fit to all moments.
[2] From a fit to 8 moments.
[3] Number of events evaluated by us.
[4] From energy-independent partial-wave analysis.

$K_4^*(2045)$ WIDTH

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		$400\ pA \to 4KX$
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	$9\ K^+ d \to K^+ \pi\text{'s}\ X$

[5] From a fit to all moments.
[6] From a fit to 8 moments.
[7] Number of events evaluated by us.
[8] From energy-independent partial-wave analysis.

$K_4^*(2045)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\pi$	(9.9 ± 1.2) %
Γ_2	$K^*(892)\pi\pi$	(9 ± 5) %
Γ_3	$K^*(892)\pi\pi\pi$	(7 ± 5) %

Γ_4	$\rho K \pi$	(5.7±3.2) %
Γ_5	$\omega K \pi$	(5.0±3.0) %
Γ_6	$\phi K \pi$	(2.8±1.4) %
Γ_7	$\phi K^*(892)$	(1.4±0.7) %

$K_4^*(2045)$ BRANCHING RATIOS

$\Gamma(K\pi)/\Gamma_{total}$ — Γ_1/Γ

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

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

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

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

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

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

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

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

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

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.028±0.014	[9] TORRES	86	MPSF	400 pA $\to$ 4KX

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.014±0.007	[9] TORRES	86	MPSF	400 pA $\to$ 4KX

[9] Error determination is model dependent.

$K_4^*(2045)$ REFERENCES

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)