$K_4^*(2045)$

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

$K_4^*(2045)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
2045± 9 OUR AVERAGE		Error includes scale factor of 1.1.				
2062± 14±13		[1] ASTON	86	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
2039± 10	400	[2,3] CLELAND	82	SPEC	±	50 $K^+ p \rightarrow K^0_S \pi^\pm p$
2070^{+100}_{-40}		[4] ASTON	81C	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
2079± 7	431	TORRES	86	MPSF		400 pA → 4KX
2088± 20	650	BAUBILLIER	82	HBC	–	8.25 $K^- p \rightarrow K^0_S \pi^- p$
2115± 46	488	CARMONY	77	HBC	0	9 $K^+ d \rightarrow K^+ \pi$'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
198± 30 OUR AVERAGE						
221± 48±27		[5] ASTON	86	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
189± 35	400	[6,7] CLELAND	82	SPEC	±	50 $K^+ p \rightarrow K^0_S \pi^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
61± 58	431	TORRES	86	MPSF		400 pA → 4KX
170^{+100}_{-50}	650	BAUBILLIER	82	HBC	–	8.25 $K^- p \rightarrow K^0_S \pi^- p$
240^{+500}_{-100}		[8] ASTON	81C	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
300±200		CARMONY	77	HBC	0	9 $K^+ d \rightarrow K^+ \pi$'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 $K^-p \rightarrow K^-\pi^+n$

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

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.89±0.53	BAUBILLIER	82	HBC	–	8.25 $K^-p \rightarrow pK_S^0 3\pi$

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

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

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

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

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

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

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

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

[9] Error determination is model dependent.

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.014±0.007	[10] TORRES	86	MPSF	400 $pA \rightarrow 4KX$

[10] Error determination is model dependent.

$K_4^*(2045)$ REFERENCES

ASTON	88	NP B296 493	+Awaji, Bienz, Bird+	(SLAC, NAGO, CINC, INUS)
ASTON	86	PL B180 308	+Awaji, D'Amore+	(SLAC, NAGO, CINC, INUS)
TORRES	86	PR 34 707	+Lai+	(VPI, ARIZ, FNAL, FSU, NDAM, TUFTS+)
BAUBILLIER	82	PL 118B 447	+Burns+	(BIRM, CERN, GLAS, MSU, CURIN)
CLELAND	82	NP B208 189	+Delfosse, Dorsaz, Gloor	(DURH, GEVA, LAUS, PITT)
ASTON	81C	PL 106B 235	+Carnegie, Dunwoodie+	(SLAC, CARL, OTTA) JP
CARMONY	77	PR D16 1251	+Clopp, Lander, Meiere, Yen+	(PURD, UCD, IUPU)

OTHER RELATED PAPERS

ASTON	87	NP B292 693	+Awaji, D'Amore+	(SLAC, NAGO, CINC, INUS)
BROMBERG	80	PR D22 1513	+Haggerty, Abrams, Dzierba	(CIT, FNAL, ILLC, IND)
CARMONY	71	PRL 27 1160	+Cords, Clopp, Erwin, Meiere+	(PURD, UCD, IUPU)