$K_4^*(2045)$

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

$K_4^*(2045)$ 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 $K^- p \to K^- \pi^+ n$
2039± 10	400	[2,3] CLELAND	82	SPEC	±	50 $K^+ p \to K_S^0 \pi^\pm p$
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 $K^- p \to K_S^0 \pi^- p$
2115± 46	488	CARMONY	77	HBC	0	9 $K^+ d \to K^+ \pi$'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 $K^- p \to K^- \pi^+ n$
189± 35	400	[6,7] CLELAND	82	SPEC	±	50 $K^+ p \to K_S^0 \pi^\pm p$
• • • 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 $K^- p \to K_S^0 \pi^- p$
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.
[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

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 34 707	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)

OTHER RELATED PAPERS

BROMBERG	80	PR D22 1513	C.M. Bromberg *et al.*	(CIT, FNAL, ILLC+)
CARMONY	71	PRL 27 1160	D.D. Carmony *et al.*	(PURD, UCD, IUPU)