

$K_4^*(2045)$

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

 $K_4^*(2045)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
2048⁺⁸₋₉	OUR AVERAGE	Error includes scale factor of 1.1.			
2090 ± 9 ⁺¹¹ ₋₂₉	183k	ABLIKIM	19AQ	BES	± $J/\psi \rightarrow K^+ K^- \pi^0$
2062 ± 14 ± 13		¹ ASTON	86	LASS	0 11 $K^- p \rightarrow K^- \pi^+ n$
2039 ± 10	400	^{2,3} CLELAND	82	SPEC	± 50 $K^+ p \rightarrow K_S^0 \pi^\pm p$
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 $pA \rightarrow 4KX$
2088 ± 20	650	BAUBILLIER	82	HBC	− 8.25 $K^- p \rightarrow K_S^0 \pi^- p$
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
199⁺²⁷₋₁₉	OUR AVERAGE				
201 ± 19 ⁺⁵⁷ ₋₁₇	183k	ABLIKIM	19AQ	BES	± $J/\psi \rightarrow K^+ K^- \pi^0$
221 ± 48 ± 27		⁵ ASTON	86	LASS	0 11 $K^- p \rightarrow K^- \pi^+ n$
189 ± 35	400	^{6,7} CLELAND	82	SPEC	± 50 $K^+ p \rightarrow K_S^0 \pi^\pm p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
61 ± 58	431	TORRES	86	MPSF	400 $pA \rightarrow 4KX$
170 ⁺¹⁰⁰ ₋₅₀	650	BAUBILLIER	82	HBC	− 8.25 $K^- p \rightarrow K_S^0 \pi^- p$
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 $K\pi$	$(9.9 \pm 1.2) \%$
Γ_2 $K^*(892)\pi\pi$	$(9 \pm 5) \%$
Γ_3 $K^*(892)\pi\pi\pi$	$(7 \pm 5) \%$
Γ_4 $\rho K\pi$	$(5.7 \pm 3.2) \%$
Γ_5 $\omega K\pi$	$(5.0 \pm 3.0) \%$
Γ_6 $\phi K\pi$	$(2.8 \pm 1.4) \%$
Γ_7 $\phi K^*(892)$	$(1.4 \pm 0.7) \%$

 $K_4^*(2045)$ BRANCHING RATIOS

$\Gamma(K\pi)/\Gamma_{\text{total}}$						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	$K^- p \rightarrow p K_S^0 3\pi$

$\Gamma(K^*(892)\pi\pi\pi)/\Gamma(K\pi)$						Γ_3/Γ_1
VALUE	DOCUMENT ID	TECN	CHG	COMMENT		
0.75 ± 0.49	BAUBILLIER	82	HBC	—	8.25	$K^- p \rightarrow p K_S^0 3\pi$

$\Gamma(\rho K\pi)/\Gamma(K\pi)$						Γ_4/Γ_1
VALUE	DOCUMENT ID	TECN	CHG	COMMENT		
0.58 ± 0.32	BAUBILLIER	82	HBC	—	8.25	$K^- p \rightarrow p K_S^0 3\pi$

$\Gamma(\omega K\pi)/\Gamma(K\pi)$						Γ_5/Γ_1
VALUE	DOCUMENT ID	TECN	CHG	COMMENT		
0.50 ± 0.30	BAUBILLIER	82	HBC	—	8.25	$K^- p \rightarrow p K_S^0 3\pi$

$\Gamma(\phi K\pi)/\Gamma_{\text{total}}$						Γ_6/Γ
VALUE	DOCUMENT ID	TECN	COMMENT			
0.028 ± 0.014	⁹ TORRES	86	MPSF	400	$pA \rightarrow 4KX$	

$\Gamma(\phi K^*(892))/\Gamma_{\text{total}}$						Γ_7/Γ
VALUE	DOCUMENT ID	TECN	COMMENT			
0.014 ± 0.007	⁹ TORRES	86	MPSF	400	$pA \rightarrow 4KX$	

⁹ Error determination is model dependent. **$K_4^*(2045)$ REFERENCES**

ABLIKIM	19AQ	PR D100 032004	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ASTON	88	NP B296 493	D. Aston <i>et al.</i>	(SLAC, NAGO, CINC, INUS)
ASTON	86	PL B180 308	D. Aston <i>et al.</i>	(SLAC, NAGO, CINC, INUS)
TORRES	86	PR D34 707	S. Torres <i>et al.</i>	(VPI, ARIZ, FNAL, FSU+)

BAUBILLIER	82	PL 118B 447	M. Baubillier <i>et al.</i>	(BIRM, CERN, GLAS+)
CLELAND	82	NP B208 189	W.E. Cleland <i>et al.</i>	(DURH, GEVA, LAUS+)
ASTON	81C	PL 106B 235	D. Aston <i>et al.</i>	(SLAC, CARL, OTTA) JP
CARMONY	77	PR D16 1251	D.D. Carmony <i>et al.</i>	(PURD, UCD, IUPU)
