

$K_2^*(1980)$

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

OMITTED FROM SUMMARY TABLE

Needs confirmation.

 $K_2^*(1980)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
1943 ± 50 OUR AVERAGE		Error includes scale factor of 2.2.			
1868 ± 8 ⁺ ₅₇	183k	ABLIKIM	19AQBES	±	$J/\psi \rightarrow K^+ K^- \pi^0$
2073 ± 94 ⁺ ₂₄₀	4289	¹ AAIJ	17C LHCb		$B^+ \rightarrow J/\psi \phi K^+$
1973 ± 8 ± 25		ASTON	87 LASS	0	11 $K^- p \rightarrow \bar{K}^0 \pi^+ \pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2020 ± 20		TIKHOMIROV 03	SPEC		40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
1978 ± 40	241	BIRD	89 LASS	−	11 $K^- p \rightarrow \bar{K}^0 \pi^- p$
¹ From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.4 σ .					

 $K_2^*(1980)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
307⁺₃₁ OUR AVERAGE		Error includes scale factor of 1.2.			
272 ± 24 ⁺ ₁₅	183k	ABLIKIM	19AQBES	±	$J/\psi \rightarrow K^+ K^- \pi^0$
678 ± 311 ⁺ ₅₅₉	4289	² AAIJ	17C LHCb		$B^+ \rightarrow J/\psi \phi K^+$
373 ± 33 ± 60		ASTON	87 LASS	0	11 $K^- p \rightarrow \bar{K}^0 \pi^+ \pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
180 ± 70		TIKHOMIROV 03	SPEC		40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
398 ± 47	241	BIRD	89 LASS	−	11 $K^- p \rightarrow \bar{K}^0 \pi^- p$
² From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.4 σ .					

 $K_2^*(1980)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K^*(892)\pi$	possibly seen
Γ_2 $K\rho$	possibly seen
Γ_3 $K f_2(1270)$	possibly seen
Γ_4 $K\phi$	seen

 $K_2^*(1980)$ BRANCHING RATIOS

$\Gamma(K^*(892)\pi)/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
possibly seen	GULER	11	BELL $B^+ \rightarrow J/\psi K^+ \pi^+ \pi^-$

$\Gamma(K\rho)/\Gamma_{\text{total}}$					Γ_2/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
possibly seen	GULER	11	BELL	$B^+ \rightarrow J/\psi K^+ \pi^+ \pi^-$	

$\Gamma(K\rho)/\Gamma(K^*(892)\pi)$					Γ_2/Γ_1
VALUE	DOCUMENT ID	TECN	CHG	COMMENT	
$1.49 \pm 0.24 \pm 0.09$	ASTON	87	LASS	0	11 $K^- p \rightarrow \bar{K}^0 \pi^+ \pi^- n$

$\Gamma(K f_2(1270))/\Gamma_{\text{total}}$					Γ_3/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
possibly seen	TIKHOMIROV	03	SPEC	40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$	

$\Gamma(K\phi)/\Gamma_{\text{total}}$					Γ_4/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
seen	4289	³ AAIJ	17C	LHCB	$B^+ \rightarrow J/\psi \phi K^+$

³From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.4σ .

$K_2^*(1980)$ REFERENCES

ABLIKIM	19AQ	PR D100 032004	M. Ablikim <i>et al.</i>	(BESIII Collab.)
AAIJ	17C	PRL 118 022003	R. Aaij <i>et al.</i>	(LHCb Collab.)
Also		PR D95 012002	R. Aaij <i>et al.</i>	(LHCb Collab.)
GULER	11	PR D83 032005	H. Guler <i>et al.</i>	(BELLE Collab.)
TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov <i>et al.</i>	
		Translated from YAF 66 860.		
BIRD	89	SLAC-332	P.F. Bird	(SLAC)
ASTON	87	NP B292 693	D. Aston <i>et al.</i>	(SLAC, NAGO, CINC, INUS)