NODE=M146

$K_2(1820)$

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

NODE=M146

See our mini-review in the 2004 edition of this *Review* (PDG 04) under $K_2(1770)$.

$K_2(1820)$ MASS

NODE=M146M

NODE=M146M

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
1819±12 OUR AVERAGE					
$1853 \pm 27^{+18}_{-35}$	4289	[1] AAIJ	17C	LHCB	$B^+ \to J/\psi \phi K^+$
1816 ± 13		[2] ASTON	93	LASS	$11 K^- p \to K^- \omega p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 1840		[3] DAUM	81C	CNTR	$63\ K^- p \to K^- 2\pi p$

[1] From an amplitude analysis of the decay $B^+ \to J/\psi \phi K^+$ with a significance of 3.0 σ. NODE=M146M;LINKAGE=B

[2] From a partial wave analysis of the $K^- \omega$ system. NODE=M146M;LINKAGE=A

[3] From a partial wave analysis of the $K^- 2\pi$ system. NODE=M146M;LINKAGE=C

$K_2(1820)$ WIDTH

NODE=M146W

NODE=M146W

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
264±34 OUR AVERAGE					
$167 \pm 58^{+82}_{-72}$	4289	[1] AAIJ	17C	LHCB	$B^+ \to J/\psi \phi K^+$
276 ± 35		[2] ASTON	93	LASS	$11 K^- p \to K^- \omega p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 230		[3] DAUM	81C	CNTR	$63\ K^- p \to K^- 2\pi p$

[1] From an amplitude analysis of the decay $B^+ \to J/\psi \phi K^+$ with a significance of 3.0 σ. NODE=M146W;LINKAGE=A

[2] From a partial wave analysis of the $K^- \omega$ system. NODE=M146W;LINKAGE=B

[3] From a partial wave analysis of the $K^- 2\pi$ system. NODE=M146W;LINKAGE=C

$K_2(1820)$ DECAY MODES

NODE=M146215;NODE=M146

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$K \pi \pi$	seen	DESIG=5;OUR EVAL;→ UNCHECKED ←
Γ_2	$K_2^*(1430)\pi$	seen	DESIG=1;OUR EVAL;→ UNCHECKED ←
Γ_3	$K^*(892)\pi$	seen	DESIG=2;OUR EVAL;→ UNCHECKED ←
Γ_4	$K f_2(1270)$	seen	DESIG=3;OUR EVAL;→ UNCHECKED ←
Γ_5	$K \omega$	seen	DESIG=6;OUR EVAL;→ UNCHECKED ←
Γ_6	$K \phi$	seen	DESIG=7

$K_2(1820)$ BRANCHING RATIOS

NODE=M146220

$\Gamma(K_2^*(1430)\pi)/\Gamma(K\pi\pi)$ Γ_2/Γ_1

NODE=M146R1
NODE=M146R1

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 0.77	DAUM	81C	CNTR	$63 K^- p \to \overline{K} 2\pi p$

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

NODE=M146R2
NODE=M146R2

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 0.05	DAUM	81C	CNTR	$63 K^- p \to \overline{K} 2\pi p$

$\Gamma(K f_2(1270))/\Gamma(K\pi\pi)$ Γ_4/Γ_1

NODE=M146R3
NODE=M146R3

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 0.18	DAUM	81C	CNTR	$63 K^- p \to \overline{K} 2\pi p$

$\Gamma(K\phi)/\Gamma_{total}$ Γ_6/Γ

NODE=M146R00
NODE=M146R00

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	4289	[2,3] AAIJ	17C	LHCB	$B^+ \to J/\psi\phi K^+$

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.8 σ.
[2] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 3.0 σ.
[3] Superseded by AAIJ 21E.

NODE=M146R00;LINKAGE=B
NODE=M146R00;LINKAGE=A
NODE=M146R00;LINKAGE=C

$K_2(1820)$ REFERENCES

NODE=M146

AAIJ	21E	PRL 127 082001	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	17C	PRL 118 022003	R. Aaij *et al.*	(LHCb Collab.)
Also		PR D95 012002	R. Aaij *et al.*	(LHCb Collab.)
PDG	04	PL B592 1	S. Eidelman *et al.*	(PDG Collab.)
ASTON	93	PL B308 186	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)
DAUM	81C	NP B187 1	C. Daum *et al.*	(AMST, CERN, CRAC, MPIM+)

REFID=61150
REFID=57657
REFID=57636
REFID=49653
REFID=43597
REFID=22548