NODE=M134

$K_0^*(1950)$

$I(J^P) = \frac{1}{2}(0^+)$

Seen in partial-wave analysis of the $K^-\pi^+$ system. Needs confirmation.

NODE=M134

$K_0^*(1950)$ MASS

NODE=M134M

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
1957±14 OUR AVERAGE					
1980±14±19	[1] AAIJ	23AH	LHCB		$B^+ \to K^+(K_S^0 K\pi)$
1942±22±21	LEES	21A	BABR		$\gamma\gamma \to \eta_c(1S) \to \eta' K^+K^-$
1945±10±20	[2] ASTON	88	LASS	0	11 $K^-p \to K^-\pi^+n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1917±12	[3] ZHOU	06	RVUE		$Kp \to K^-\pi^+n$
1820±40	[4] ANISOVICH	97C	RVUE		11 $K^-p \to K^-\pi^+n$

NODE=M134M

[1] From Dalitz plot analyses of $\eta_c(1S,2S) \to K_S^0 K^+\pi^- +$ c.c..

NODE=M134M;LINKAGE=B

[2] We take the central value of the two solutions and the larger error given.

NODE=M134M;LINKAGE=A

[3] S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$.

NODE=M134M;LINKAGE=ZU

[4] T-matrix pole. Reanalysis of ASTON 88 data.

NODE=M134M;LINKAGE=A1

$K_0^*(1950)$ WIDTH

NODE=M134W

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
170± 50 OUR AVERAGE Error includes scale factor of 2.2. See the ideogram below.					
229± 26±16	[1] AAIJ	23AH	LHCB		$B^+ \to K^+(K_S^0 K\pi)$
80± 32±20	LEES	21A	BABR		$\gamma\gamma \to \eta_c(1S) \to \eta' K^+K^-$
201± 34±79	[2] ASTON	88	LASS	0	11 $K^-p \to K^-\pi^+n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
145± 38	[3] ZHOU	06	RVUE		$Kp \to K^-\pi^+n$
250±100	[4] ANISOVICH	97C	RVUE		11 $K^-p \to K^-\pi^+n$

NODE=M134W

NODE=M134W

[1] From Dalitz plot analyses of $\eta_c(1S,2S) \to K_S^0 K^+\pi^- +$ c.c..

NODE=M134W;LINKAGE=B

[2] We take the central value of the two solutions and the larger error given.

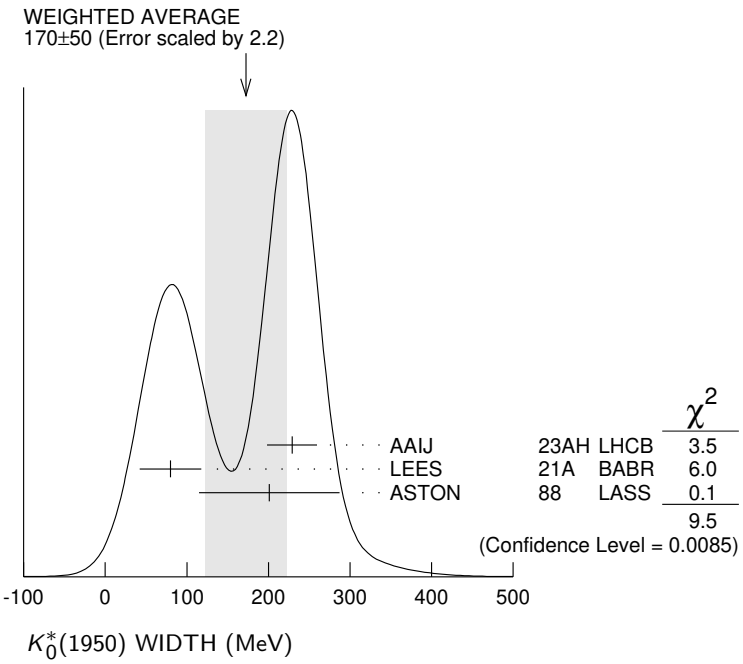
NODE=M134W;LINKAGE=A

[3] S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$.

NODE=M134W;LINKAGE=ZU

[4] T-matrix pole. Reanalysis of ASTON 88 data.

NODE=M134W;LINKAGE=A1



$K_0^*(1950)$ DECAY MODES

NODE=M134215;NODE=M134

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$K^-\pi^+$	(52±14) %	DESIG=1

$K_0^*(1950)$ BRANCHING RATIOS

NODE=M134220

$\Gamma(K^-\pi^+)/\Gamma_{total}$ **Γ_1/Γ**

NODE=M134R1

VALUE	DOCUMENT ID		TECN	CHG	COMMENT	
0.52±0.08±0.12	[1] ASTON	88	LASS	0	11 $K^- p \to K^-\pi^+ n$	NODE=M134R1
• • • We do not use the following data for averages, fits, limits, etc. • • •						
~ 0.60	[2] ZHOU	06	RVUE		$K p \to K^-\pi^+ n$	

[1] We take the central value of the two solutions and the larger error given. NODE=M134R1;LINKAGE=A

[2] S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$. NODE=M134R1;LINKAGE=ZU

$K_0^*(1950)$ REFERENCES

NODE=M134

AAIJ	23AH	PR D108 032010	R. Aaij *et al.*	(LHCb Collab.) REFID=62349
LEES	21A	PR D104 072002	J.P. Lees *et al.*	(BABAR Collab.) REFID=61442
ZHOU	06	NP A775 212	Z.Y. Zhou, H.Q. Zheng	REFID=51198
ANISOVICH	97C	PL B413 137	A.V. Anisovich, A.V. Sarantsev	REFID=45815
ASTON	88	NP B296 493	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS) REFID=40262