

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

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

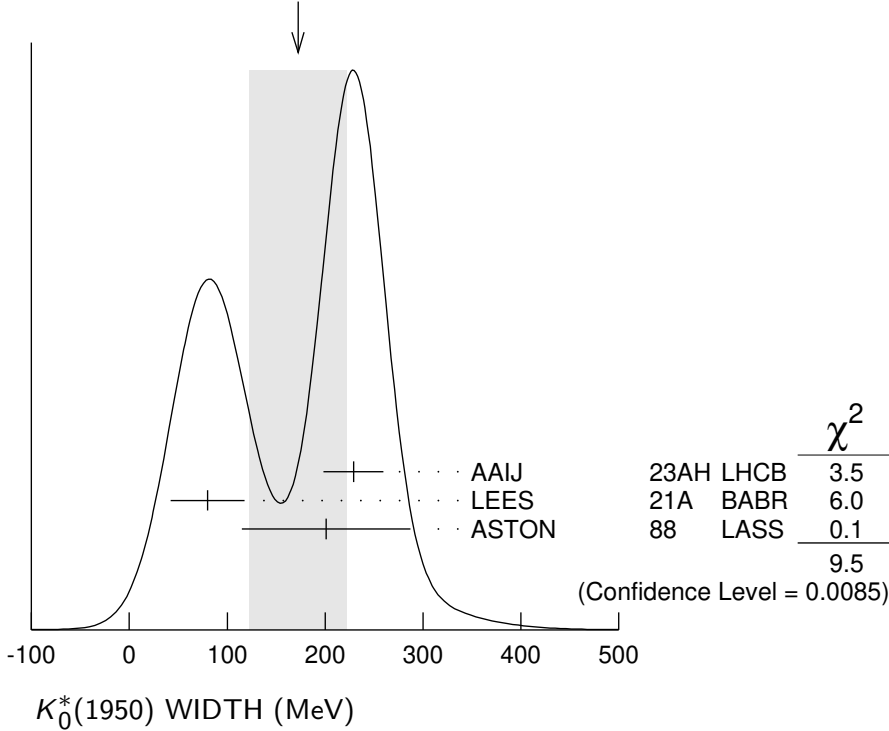
$K_0^*(1950)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
1957±14 OUR AVERAGE				
1980±14±19	¹ AAIJ	23AH	LHCB	$B^+ \rightarrow K^+(K_S^0 K \pi)$
1942±22±21	LEES	21A	BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow \eta' K^+ K^-$
1945±10±20	² ASTON	88	LASS 0	11 $K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1917±12	³ ZHOU	06	RVUE	$K p \rightarrow K^- \pi^+ n$
1820±40	⁴ ANISOVICH	97C	RVUE	11 $K^- p \rightarrow K^- \pi^+ n$
¹ From Dalitz plot analyses of $\eta_c(1S, 2S) \rightarrow K_S^0 K^+ \pi^- + c.c..$				
² We take the central value of the two solutions and the larger error given.				
³ S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$.				
⁴ T-matrix pole. Reanalysis of ASTON 88 data.				

$K_0^*(1950)$ WIDTH

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	$B^+ \rightarrow K^+(K_S^0 K \pi)$
80± 32±20	LEES	21A	BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow \eta' K^+ K^-$
201± 34±79	² ASTON	88	LASS 0	11 $K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
145± 38	³ ZHOU	06	RVUE	$K p \rightarrow K^- \pi^+ n$
250±100	⁴ ANISOVICH	97C	RVUE	11 $K^- p \rightarrow K^- \pi^+ n$
¹ From Dalitz plot analyses of $\eta_c(1S, 2S) \rightarrow K_S^0 K^+ \pi^- + c.c..$				
² We take the central value of the two solutions and the larger error given.				
³ S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$.				
⁴ T-matrix pole. Reanalysis of ASTON 88 data.				

WEIGHTED AVERAGE
 170 ± 50 (Error scaled by 2.2)



$K_0^*(1950)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad K^- \pi^+$	$(52 \pm 14) \%$

$K_0^*(1950)$ BRANCHING RATIOS

$\Gamma(K^- \pi^+)/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	DOCUMENT ID	TECN	CHG	COMMENT	
$0.52 \pm 0.08 \pm 0.12$	¹ ASTON	88	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 0.60	² ZHOU	06	RVUE		$K p \rightarrow K^- \pi^+ n$
¹ We take the central value of the two solutions and the larger error given.					
² S-matrix pole. Using ASTON 88 and assuming $K_0^*(700)$, $K_0^*(1430)$.					

$K_0^*(1950)$ REFERENCES

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