

**$K_0^*(1950)$** 

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

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

 **$K_0^*(1950)$  MASS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
<b>1957 ± 14 OUR AVERAGE</b>				
1980 ± 14 ± 19	<sup>1</sup> 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	<sup>2</sup> 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	<sup>3</sup> ZHOU	06	RVUE	$K p \rightarrow K^- \pi^+ n$
1820 ± 40	<sup>4</sup> ANISOVICH	97C	RVUE	11 $K^- p \rightarrow K^- \pi^+ n$

<sup>1</sup> From Dalitz plot analyses of  $\eta_c(1S, 2S) \rightarrow K_S^0 K^+ \pi^- + c.c..$

<sup>2</sup> We take the central value of the two solutions and the larger error given.

<sup>3</sup> S-matrix pole. Using ASTON 88 and assuming  $K_0^*(700)$ ,  $K_0^*(1430)$ .

<sup>4</sup> T-matrix pole. Reanalysis of ASTON 88 data.

 **$K_0^*(1950)$  WIDTH**

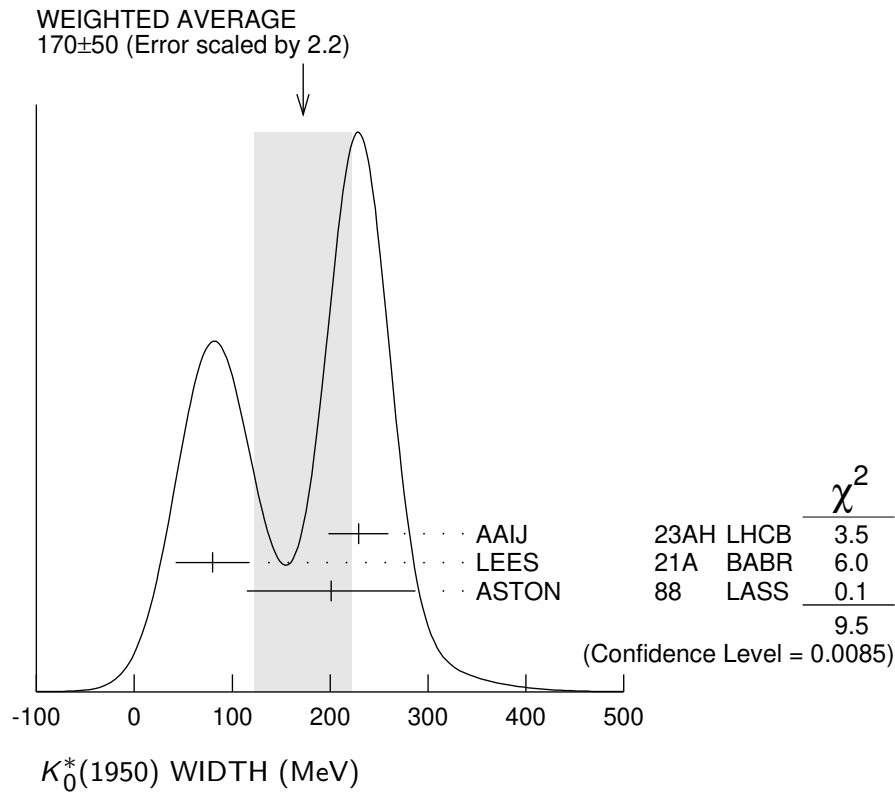
<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
<b>170 ± 50 OUR AVERAGE</b> Error includes scale factor of 2.2. See the ideogram below.				
229 ± 26 ± 16	<sup>1</sup> AAIJ	23AH	LHCB	$B^+ \rightarrow K^+(K_S^0 K \pi)$
80 ± 32 ± 20	LEES	21A	BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow \eta' K^+ K^-$
201 ± 34 ± 79	<sup>2</sup> 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	<sup>3</sup> ZHOU	06	RVUE	$K p \rightarrow K^- \pi^+ n$
250 ± 100	<sup>4</sup> ANISOVICH	97C	RVUE	11 $K^- p \rightarrow K^- \pi^+ n$

<sup>1</sup> From Dalitz plot analyses of  $\eta_c(1S, 2S) \rightarrow K_S^0 K^+ \pi^- + c.c..$

<sup>2</sup> We take the central value of the two solutions and the larger error given.

<sup>3</sup> S-matrix pole. Using ASTON 88 and assuming  $K_0^*(700)$ ,  $K_0^*(1430)$ .

<sup>4</sup> T-matrix pole. Reanalysis of ASTON 88 data.



### $K_0^*(1950)$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $K^- \pi^+$	$(52 \pm 14) \%$

### $K_0^*(1950)$ BRANCHING RATIOS

$\Gamma(K^- \pi^+)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$			
VALUE	DOCUMENT ID	TECN	CHG	COMMENT
$0.52 \pm 0.08 \pm 0.12$	<sup>1</sup> ASTON	88	LASS	0 11 $K^- p \rightarrow K^- \pi^+ n$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$\sim 0.60$       <sup>2</sup> ZHOU      06      RVUE       $K p \rightarrow K^- \pi^+ n$

<sup>1</sup> We take the central value of the two solutions and the larger error given.

<sup>2</sup> 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)