

$K_0^*(1430)$

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

See our minireview in the 1994 edition and in this edition under the $f_0(1370)$. **$K_0^*(1430)$ MASS**

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT	
$1429 \pm 4 \pm 5$	¹ ASTON	88	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
1415 ± 25	² ANISOVICH	97C	RVUE		11 $K^- p \rightarrow K^- \pi^+ n$
~ 1450	³ TORNQVIST	96	RVUE		$\pi\pi \rightarrow \pi\pi, K\bar{K}, K\pi$
~ 1430	BAUBILLIER	84B	HBC	-	8.25 $K^- p \rightarrow \bar{K}^0 \pi^- p$
~ 1425	^{4,5} ESTABROOKS	78	ASPK		13 $K^\pm p \rightarrow K^\pm \pi^\pm (n, \Delta)$
~ 1450.0	MARTIN	78	SPEC		10 $K^\pm p \rightarrow K_S^0 \pi p$

¹ Uses a model for the background, without this background they get a mass 1340 MeV, where the phase shift passes 90° .² T-matrix pole. Reanalysis of ASTON 88 data.³ T-matrix pole.⁴ Mass defined by pole position.⁵ From elastic $K\pi$ partial-wave analysis. **$K_0^*(1430)$ WIDTH**

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT	
$287 \pm 10 \pm 21$	ASTON	88	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
330 ± 50	⁶ ANISOVICH	97C	RVUE		11 $K^- p \rightarrow K^- \pi^+ n$
~ 320	⁷ TORNQVIST	96	RVUE		$\pi\pi \rightarrow \pi\pi, K\bar{K}, K\pi$
~ 200	BAUBILLIER	84B	HBC	-	8.25 $K^- p \rightarrow \bar{K}^0 \pi^- p$
200 to 300	⁸ ESTABROOKS	78	ASPK		13 $K^\pm p \rightarrow K^\pm \pi^\pm (n, \Delta)$

⁶ T-matrix pole. Reanalysis of ASTON 88 data.⁷ T-matrix pole.⁸ From elastic $K\pi$ partial-wave analysis. **$K_0^*(1430)$ DECAY MODES**

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\pi$	(93 \pm 10) %

 $K_0^*(1430)$ BRANCHING RATIOS

$\Gamma(K\pi)/\Gamma_{\text{total}}$	Γ_1/Γ				
VALUE	DOCUMENT ID	TECN	CHG	COMMENT	
$0.93 \pm 0.04 \pm 0.09$	ASTON	88	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$

$K_0^*(1430)$ REFERENCES

ANISOVICH	97C	PL B413 137		
TORNQVIST	96	PRL 76 1575	+Roos	(HELS)
ASTON	88	NP B296 493	+Awaji, Bienz, Bird+	(SLAC, NAGO, CINC, INUS)
BAUBILLIER	84B	ZPHY C26 37	+	(BIRM, CERN, GLAS, MICH, CURIN)
ESTABROOKS	78	NP B133 490	+Carnegie+	(MCGI, CARL, DURH, SLAC)
MARTIN	78	NP B134 392	+Shimada, Baldi, Bohringer+	(DURH, GEVA)

OTHER RELATED PAPERS

TORNQVIST	82	PRL 49 624		(HELS)
GOLDBERG	69	PL 30B 434	+Huffer, Laloum+	(SABRE Collab.)
TRIPPE	68	PL 28B 203	+Chien, Malamud, Mellema, Schlein+	(UCLA)
