$K_0^*(1430)$

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

See our minireview in the 1994 edition and in this edition under the $f_0(600)$.

$K_0^*(1430)$ MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1412 ± 6	[1] ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 1440	[2] JAMIN	00	RVUE		$K p \to K p$
1436 ± 8	[3] BARBERIS	98E	OMEG		450 $p p \to p_f p_s K^+ K^- \pi^+ \pi^-$
1415 ±25	[4] ANISOVICH	97C	RVUE		11 $K^- p \to K^- \pi^+ n$
~ 1450	[5] TORNQVIST	96	RVUE		$\pi\pi \to \pi\pi$, $K\overline{K}$, $K\pi$
~ 1430	BAUBILLIER	84B	HBC	−	8.25 $K^- p \to \overline{K}^0 \pi^- p$
~ 1425	[6,7] ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$
~ 1450.0	MARTIN	78	SPEC		10 $K^\pm p \to K_S^0 \pi p$

[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. Using data from ESTABROOKS 78 and ASTON 88.
[3] J^P not determined, could be $K_2^*(1430)$.
[4] T-matrix pole. Reanalysis of ASTON 88 data.
[5] T-matrix pole.
[6] Mass defined by pole position.
[7] From elastic $K\pi$ partial-wave analysis.

$K_0^*(1430)$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
294±23	ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 300	[8] JAMIN	00	RVUE		$K p \to K p$
196±45	[9] BARBERIS	98E	OMEG		450 $p p \to p_f p_s K^+ K^- \pi^+ \pi^-$
330±50	[10] ANISOVICH	97C	RVUE		11 $K^- p \to K^- \pi^+ n$
~ 320	[11] TORNQVIST	96	RVUE		$\pi\pi \to \pi\pi$, $K\overline{K}$, $K\pi$
~ 200	BAUBILLIER	84B	HBC	−	8.25 $K^- p \to \overline{K}^0 \pi^- p$
200 to 300	[12] ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$

[8] T-matrix pole. Using data from ESTABROOKS 78 and ASTON 88.
[9] J^P not determined, could be $K_2^*(1430)$.
[10] T-matrix pole. Reanalysis of ASTON 88 data.
[11] T-matrix pole.
[12] From elastic $K\pi$ partial-wave analysis.

$K_0^*(1430)$ DECAY MODES

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

$K_0^*(1430)$ BRANCHING RATIOS

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

VALUE	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
$0.93\pm0.04\pm0.09$	ASTON	88	LASS	0	11 $K^- p \rightarrow K^- \pi^+ n$

$K_0^*(1430)$ REFERENCES

JAMIN	00	NP B587 331	M. Jamin *et al.*	
BARBERIS	98E	PL B436 204	D. Barberis *et al.*	(Omega expt.)
ANISOVICH	97C	PL B413 137	A.V. Anisovich, A.V. Sarantsev	
TORNQVIST	96	PRL 76 1575	N.A. Tornqvist, M. Roos	(HELS)
ASTON	88	NP B296 493	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)
BAUBILLIER	84B	ZPHY C26 37	M. Baubillier *et al.*	(BIRM, CERN, GLAS+)
ESTABROOKS	78	NP B133 490	P.G. Estabrooks *et al.*	(MCGI, CARL, DURH+)
MARTIN	78	NP B134 392	A.D. Martin *et al.*	(DURH, GEVA)

OTHER RELATED PAPERS

SHAKIN	00	PR D62 114014	C.M. Shakin, H. Wang	
BEVEREN	99	EPJ C10 469	E. Van Beveren, G. Rupp	
OLLER	99	PR D60 099906 (erratum)	J.A. Oller *et al.*	
OLLER	99C	PR D60 074023	J.A. Oller, E. Oset	
TORNQVIST	82	PRL 49 624	N.A. Tornqvist	(HELS)
GOLDBERG	69	PL 30B 434	J. Goldberg *et al.*	(SABRE Collab.)
TRIPPE	68	PL 28B 203	T.G. Trippe *et al.*	(UCLA)