$K_0^*(1430)$

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

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
1412 ± 6 OUR NEW AVERAGE [1429 ± 6 MeV OUR 1998 AVERAGE]					
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. • • •					
1436 ± 8	[2] BARBERIS	98E	OMEG		450 $pp \to p_f p_s K^+ K^- \pi^+ \pi^-$
1415 ±25	[3] ANISOVICH	97C	RVUE		11 $K^- p \to K^- \pi^+ n$
~ 1450	[4] 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	[5,6] ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$
~ 1450.0	MARTIN	78	SPEC		10 $K^\pm p \to K^0_S \pi p$

[1] Uses a model for the background, without this background they get a mass 1340 MeV, where the phase shift passes 90°.
[2] J^P not determined, could be $K_2^*(1430)$.
[3] T-matrix pole. Reanalysis of ASTON 88 data.
[4] T-matrix pole.
[5] Mass defined by pole position.
[6] From elastic $K\pi$ partial-wave analysis.

$K_0^*(1430)$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
294±23 OUR NEW AVERAGE [287 ± 23 MeV OUR 1998 AVERAGE]					
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. • • •					
196±45	[7] BARBERIS	98E	OMEG		450 $pp \to p_f p_s K^+ K^- \pi^+ \pi^-$
330±50	[8] ANISOVICH	97C	RVUE		11 $K^- p \to K^- \pi^+ n$
~ 320	[9] 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	[10] ESTABROOKS	78	ASPK		13 $K^\pm p \to K^\pm \pi^\pm (n, \Delta)$

[7] J^P not determined, could be $K_2^*(1430)$.
[8] T-matrix pole. Reanalysis of ASTON 88 data.
[9] T-matrix pole.
[10] 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±0.04±0.09	ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$

$K_0^*(1430)$ REFERENCES

BARBERIS	98E	PL B436 204	D. Barberis *et al.*	(Omega expt.)
ANISOVICH	97C	PL B413 137		
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

BEVEREN	99	EPJ C10 469	E. Van Beveren, G. Rupp	
OLLER	99	PR D60 099906	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)