$K_0^*(800)$ or κ

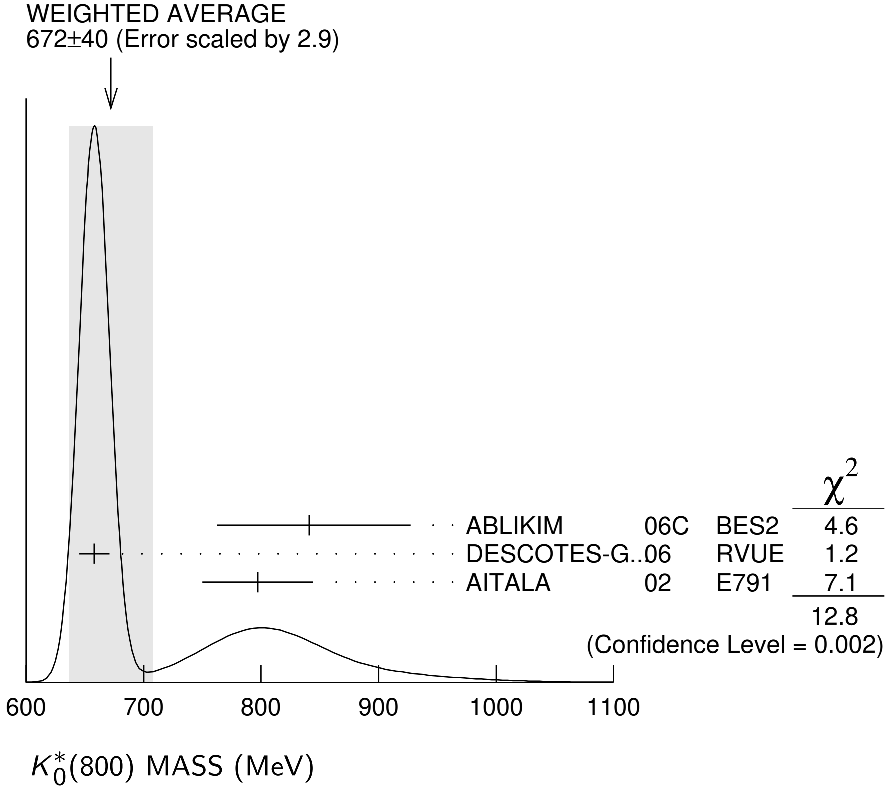
$I(J^P) = \frac{1}{2}(0^+)$

OMITTED FROM SUMMARY TABLE
Needs confirmation.

$K_0^*(800)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
672±40 OUR AVERAGE	Error includes scale factor of 2.9. See the ideogram below.				
$841 \pm 30^{+81}_{-73}$	25k	[1] ABLIKIM	06C	BES2	$J/\psi \rightarrow \overline{K}^*(892)^0 K^+ \pi^-$
658 ± 13		[2] DESCOTES-G..	06	RVUE	$\pi K \rightarrow \pi K$
$797 \pm 19 \pm 43$	15090	[3] AITALA	02	E791	$D^+ \rightarrow K^- \pi^+ \pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
750^{+30}_{-55}		[4] BUGG	06	RVUE	
855 ± 15	627 ± 30	[5] CAWLFIELD	06A	CLEO	$D^0 \rightarrow K^+ K^- \pi^0$
694 ± 53		[6,7] ZHOU	06	RVUE	$K p \rightarrow K^- \pi^+ n$
753 ± 52		[8] PELAEZ	04A	RVUE	$K \pi \rightarrow K \pi$
594 ± 79		[7] ZHENG	04	RVUE	$K^- p \rightarrow K^- \pi^+ n$
722 ± 60		[9] BUGG	03	RVUE	$11\ K^- p \rightarrow K^- \pi^+ n$
905^{+65}_{-30}		[10] ISHIDA	97B	RVUE	$11\ K^- p \rightarrow K^- \pi^+ n$

[1] S-matrix pole. GUO 06 in a chiral unitary approach report a mass of 757 ± 33 MeV and a width of 558 ± 82 MeV.
[2] S-matrix pole. Using Roy-Steiner equations (ROY 71) as well as unitarity, analyticity and crossing symmetry constraints.
[3] Not seen by KOPP 01 using 7070 events of $D^0 \rightarrow K^- \pi^+ \pi^0$. LINK 02E and LINK 05I show clear evidence for a constant non-resonant scalar amplitude rather than $K_0^*(800)$ in their high statistics analysis of $D^+ \rightarrow K^- \pi^+ \mu^+ \nu_\mu$.
[4] S-matrix pole. Reanalysis of ASTON 88, AITALA 02, and ABLIKIM 06C using for the κ an s-dependent width with an Adler zero near threshold.
[5] Breit-Wigner parameters. A significant S-wave can be also modeled as a non-resonant contribution.
[6] S-matrix pole.
[7] Using ASTON 88.
[8] T-matrix pole. Reanalysis of data from LINGLIN 73, ESTABROOKS 78, and ASTON 88 in the unitarized ChPT model.
[9] T-matrix pole. Reanalysis of ASTON 88 data.
[10] Reanalysis of ASTON 88 using interfering Breit-Wigner amplitudes.



$K_0^*(800)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
550± 34 OUR AVERAGE	Error includes scale factor of 1.5. See the ideogram below.				
$618\pm 90^{+96}_{-144}$	25k	[11] ABLIKIM	06C	BES2	$J/\psi \to \overline{K}^*(892)^0 K^+ \pi^-$
557 ± 24		[12] DESCOTES-G..	06	RVUE	$\pi K \to \pi K$
$410\pm 43\pm 87$	15090	[13] AITALA	02	E791	$D^+ \to K^- \pi^+ \pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
684 ± 120		[14] BUGG	06	RVUE	
251 ± 48	627 ± 30	[15] CAWLFIELD	06A	CLEO	$D^0 \to K^+ K^- \pi^0$
606 ± 59		[11,16] ZHOU	06	RVUE	$K p \to K^- \pi^+ n$
470 ± 66		[17] PELAEZ	04A	RVUE	$K\pi \to K\pi$
724 ± 332		[16] ZHENG	04	RVUE	$K^- p \to K^- \pi^+ n$
772 ± 100		[18] BUGG	03	RVUE	$11\ K^- p \to K^- \pi^+ n$
545^{+235}_{-110}		[19] ISHIDA	97B	RVUE	$11\ K^- p \to K^- \pi^+ n$

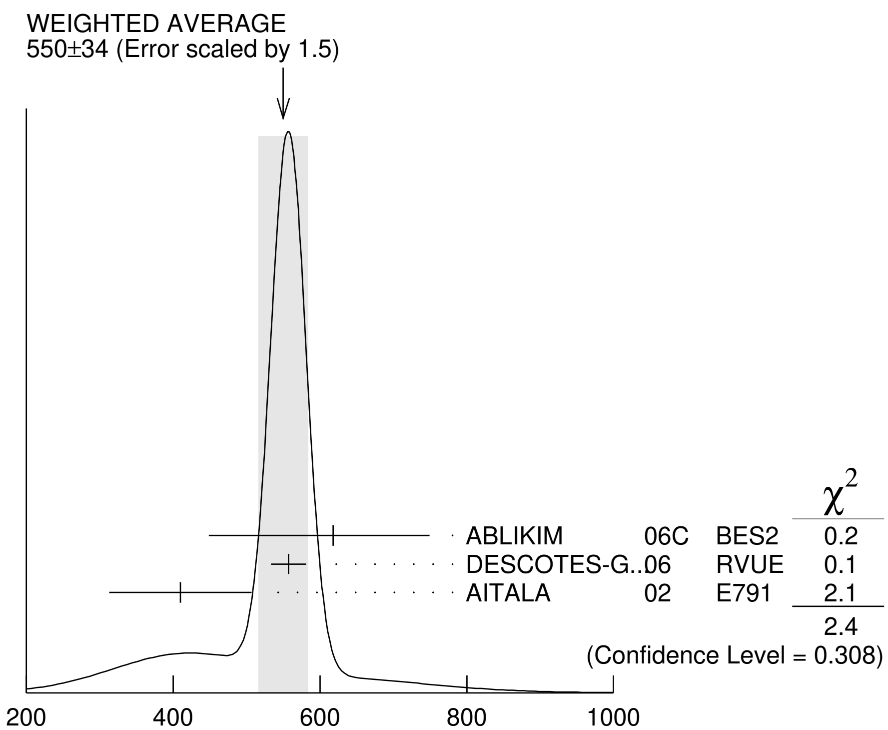
[11] S-matrix pole.

[12] S-matrix pole. Using Roy-Steiner equations (ROY 71) as well as unitarity, analyticity and crossing symmetry constraints.

[13] Not seen by KOPP 01 using 7070 events of $D^0 \to K^- \pi^+ \pi^0$. LINK 02E and LINK 05I show clear evidence for a constant non-resonant scalar amplitude rather than $K_0^*(800)$ in their high statistics analysis of $D^+ \to K^- \pi^+ \mu^+ \nu_\mu$.

[14] S-matrix pole. Reanalysis of ASTON 88, AITALA 02, and ABLIKIM 06C using for the κ an s-dependent width with an Adler zero near threshold.

[15] Statistical error only. A fit to the Dalitz plot including the $K_0^*(800)^{\pm}$, $K^*(892)^{\pm}$, and ϕ resonances modeled as Breit-Wigners. A significant S-wave can be also modeled as a non-resonant contribution.
[16] Using ASTON 88.
[17] T-matrix pole. Reanalysis of data from LINGLIN 73, ESTABROOKS 78, and ASTON 88 in the unitarized ChPT model.
[18] T-matrix pole. Reanalysis of ASTON 88 data.
[19] Reanalysis of ASTON 88 using interfering Breit-Wigner amplitudes.



$K_0^*(800)$ WIDTH (MeV)

$K_0^*(800)$ REFERENCES

ABLIKIM	06C	PL B633 681	M. Ablikim *et al.*	(BES Collab.)
BUGG	06	PL B632 471	D.V. Bugg	(LOQM)
CAWLFIELD	06A	PR D74 031108R	C. Cawlfield *et al.*	(CLEO Collab.)
DESCOTES-G...	06	EPJ C48 553	S. Descotes-Genon, B. Moussallam	
GUO	06	NP A773 78	F.K. Guo *et al.*	
ZHOU	06	NP A775 212	Z.Y. Zhou, H.Q. Zheng	
LINK	05I	PL B621 72	J.M. Link *et al.*	(FNAL FOCUS Collab.)
PELAEZ	04A	MPL A19 2879	J.R. Pelaez	
ZHENG	04	NP A733 235	H.Q. Zheng *et al.*	
BUGG	03	PL B572 1	D.V. Bugg	
AITALA	02	PRL 89 121801	E.M. Aitala *et al.*	(FNAL E791 Collab.)
LINK	02E	PL B535 43	J.M. Link *et al.*	(FNAL FOCUS Collab.)
KOPP	01	PR D63 092001	S. Kopp *et al.*	(CLEO Collab.)
ISHIDA	97B	PTP 98 621	S. Ishida *et al.*	
ASTON	88	NP B296 493	D. Aston *et al.*	(SLAC, NAGO, CINC, INUS)
ESTABROOKS	78	NP B133 490	P.G. Estabrooks *et al.*	(MCGI, CARL, DURH+)
LINGLIN	73	NP B55 408	D. Linglin	(CERN)
ROY	71	PL 36B 353	S.M. Roy	

OTHER RELATED PAPERS

AITALA	06	PR D73 032004	E.M. Aitala *et al.*	(FNAL E791 Collab.)
CHENG	06	PR D73 014017	H.-Y. Cheng, C.-K. Chua, K.-C. Yang	
JAMIN	06	PR D74 074009	M. Jamin, J.A. Oller, A. Pich	
LINK	06	PL B633 183	J.M. Link *et al.*	(FNAL FOCUS Collab.)
MCNEILE	06	PR D74 014508	C. McNeile, C. Michael	
VANBEVEREN	06A	PR D74 037501	E. van Beberen *et al.*	
VANBEVEREN	06B	PRL 97 202001	E. van Beberen, G. Rupp	
ABLIKIM	05Q	PR D72 092002	M. Ablikim *et al.*	(BES Collab.)
BRITO	05	PL B608 69	T.V. Brito *et al.*	
BUGG	05A	EPJ A25 107	D.V. Bugg	(LOQM)
BUGG	05B	EPJ A26 151	D.V. Bugg	(LOQM)
GARMASH	05	PR D71 092003	A. Garmash *et al.*	(BELLE Collab.)
LI	05B	EPJ A25 263	D.-M. Li, K.-W. Wei, H. Yu	
ABLIKIM	04E	PL B603 138	M. Ablikim *et al.*	(BES Collab.)
PELAEZ	04	PRL 92 102001	J.R. Pelaez	
YNDURAIN	04	PL B578 99	F.J. Yndurain	
SEMENOV	03	PAN 66 526	S.V. Semenov	
		Translated from YAF 66 553.		
LINK	02L	PL B544 89	J.M. Link *et al.*	(FNAL FOCUS Collab.)
VANBEVEREN	01B	EPJ C22 493	E. van Beveren	
JAMIN	00	NP B587 331	M. Jamin *et al.*	