$K^*(892)$

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

$K^*(892)$ T-Matrix Pole $\sqrt{s}$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
$(890 \pm 14) - i\,(26 \pm 6)$ OUR ESTIMATE				
$(890 \pm 2) - i\,(25.6 \pm 1.2)$	[1] PELAEZ	20	RVUE	$\pi K \to \pi K$
$(892 \pm 1) - i\,(29 \pm 1)$	[2] PELAEZ	17	RVUE	$\pi K \to \pi K$
$(889 \pm 13) - i\,(24 \pm 4)$	[3] PELAEZ	04A	RVUE	$\pi K \to \pi K$

[1] Extracted employing πK partial wave analysis from ESTABROOKS 78 and ASTON 88, Roy-Steiner equations and once subtracted forward dispersion relations.
[2] Reanalysis of ESTABROOKS 78 and ASTON 88 satisfying Forward Dispersion Relations and using sequences of Pade approximants.
[3] Reanalysis of data from ESTABROOKS 78 and ASTON 88 in the unitarized ChPT model.

$K^*(892)$ MASS

CHARGED ONLY, HADROPRODUCED

VALUE (MeV)		EVTS	DOCUMENT ID		TECN	CHG	COMMENT
891.67±0.26 OUR AVERAGE							
$892.2 \pm 0.5 \pm 1.7$			ALBRECHT	20	CBAR		$0.9\ \overline{p}p \to K^+ K^- \pi^0$
892.6 ± 0.5		5840	BAUBILLIER	84B	HBC	$-$	$8.25\ K^- p \to \overline{K}^0 \pi^- p$
888 ± 3			NAPIER	84	SPEC	$+$	$200\ \pi^- p \to 2K^0_S X$
891 ± 1			NAPIER	84	SPEC	$-$	$200\ \pi^- p \to 2K^0_S X$
891.7 ± 2.1		3700	BARTH	83	HBC	$+$	$70\ K^+ p \to K^0 \pi^+ X$
891 ± 1		4100	TOAFF	81	HBC	$-$	$6.5\ K^- p \to \overline{K}^0 \pi^- p$
892.8 ± 1.6			AJINENKO	80	HBC	$+$	$32\ K^+ p \to K^0 \pi^+ X$
890.7 ± 0.9		1800	AGUILAR-...	78B	HBC	$\pm$	$0.76\ \overline{p}p \to K^\mp K^0_S \pi^\pm$
886.6 ± 2.4		1225	BALAND	78	HBC	$\pm$	$12\ \overline{p}p \to (K\pi)^\pm X$
891.7 ± 0.6		6706	COOPER	78	HBC	$\pm$	$0.76\ \overline{p}p \to (K\pi)^\pm X$
891.9 ± 0.7		9000	[1] PALER	75	HBC	$-$	$14.3\ K^- p \to (K\pi)^- X$
892.2 ± 1.5		4404	AGUILAR-...	71B	HBC	$-$	$3.9, 4.6\ K^- p \to (K\pi)^- p$
891 ± 2		1000	CRENNELL	69D	DBC	$-$	$3.9\ K^- N \to K^0 \pi^- X$
890 ± 3.0		720	BARLOW	67	HBC	$\pm$	$1.2\ \overline{p}p \to (K^0\pi)^\pm K^\mp$
889 ± 3.0		600	BARLOW	67	HBC	$\pm$	$1.2\ \overline{p}p \to (K^0\pi)^\pm K\pi$
891 ± 2.3		620	[2] DEBAERE	67B	HBC	$+$	$3.5\ K^+ p \to K^0 \pi^+ p$
891.0 ± 1.2		1700	[3] WOJCICKI	64	HBC	$-$	$1.7\ K^- p \to \overline{K}^0 \pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •							
$893.6 \pm 0.1\ ^{+0.2}_{-0.3}$		183k	ABLIKIM	19AQ	BES	$\pm$	$J/\psi \to K^+ K^- \pi^0$
895.6 ± 0.8		4k	[4] LEES	17C	BABR		$J/\psi \to K^0_S K^\pm \pi^\mp$
$893.2 \pm 0.1 \pm 1.0$		190k	[5] AAIJ	16N	LHCB		$D^0 \to K^0_S K^\pm \pi^\mp$
893.5 ± 1.1		27k	[6] ABELE	99D	CBAR	$\pm$	$0.0\ \overline{p}p \to K^+ K^- \pi^0$
$890.4 \pm 0.2 \pm 0.5$		80k	[7] BIRD	89	LASS	$-$	$11\ K^- p \to \overline{K}^0 \pi^- p$
890.0 ± 2.3		800	[2,3] CLELAND	82	SPEC	$+$	$30\ K^+ p \to K^0_S \pi^+ p$

896.0 ±1.1	3200	[2,3] CLELAND	82	SPEC +	50 $K^+ p \to K^0_S \pi^+ p$
893 ±1	3600	[2,3] CLELAND	82	SPEC −	50 $K^+ p \to K^0_S \pi^- p$
896.0 ±1.9	380	DELFOSSE	81	SPEC +	50 $K^\pm p \to K^\pm \pi^0 p$
886.0 ±2.3	187	DELFOSSE	81	SPEC −	50 $K^\pm p \to K^\pm \pi^0 p$
894.2 ±2.0	765	[2] CLARK	73	HBC −	3.13 $K^- p \to \overline{K}^0 \pi^- p$
894.3 ±1.5	1150	[2,3] CLARK	73	HBC −	3.3 $K^- p \to \overline{K}^0 \pi^- p$
892.0 ±2.6	341	[2] SCHWEING...68		HBC −	5.5 $K^- p \to \overline{K}^0 \pi^- p$

[1] Inclusive reaction. Complicated background and phase-space effects.
[2] Mass errors enlarged by us to $\Gamma/\sqrt{N}$. See note.
[3] Number of events in peak reevaluated by us.
[4] From a Dalitz plot analysis in an isobar model with charged and neutral $K^*(892)$ masses and widths floating.
[5] Average of fit results with different parametrizations for the $K\pi$ S-wave.
[6] K-matrix pole.
[7] From a partial wave amplitude analysis.

CHARGED ONLY, PRODUCED IN τ LEPTON DECAYS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
895.47±0.20±0.74	53k	[1] EPIFANOV	07	BELL	$\tau^- \to K^0_S \pi^- \nu_\tau$

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

892.0 ±0.5		[2] BOITO	10	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
892.0 ±0.9		[3,4] BOITO	09	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
895.3 ±0.2		[4,5] JAMIN	08	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
896.4 ±0.9	12k	[6] BONVICINI	02	CLEO	$\tau^- \to K^- \pi^0 \nu_\tau$
895 ±2		[7] BARATE	99R	ALEP	$\tau^- \to K^- \pi^0 \nu_\tau$

[1] From a fit in the $K^*_0(700) + K^*(892) + K^*(1410)$ model.
[2] From the pole position of the $K\pi$ vector form factor using EPIFANOV 07 and constraints from K_{l3} decays in ANTONELLI 10.
[3] From the pole position of the $K\pi$ vector form factor in the complex s-plane and using EPIFANOV 07 data.
[4] Systematic uncertainties not estimated.
[5] Reanalysis of EPIFANOV 07 using resonance chiral theory.
[6] Calculated by us from the shift by 4.7 ± 0.9 MeV (statistical uncertainty only) reported in BONVICINI 02 with respect to the world average value from PDG 00.
[7] With mass and width of the $K^*(1410)$ fixed at 1412 MeV and 227 MeV, respectively.

NEUTRAL ONLY

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
895.55±0.20 OUR AVERAGE		Error includes scale factor of 1.7. See the ideogram below.			
894.68±0.25±0.05		[1] ABLIKIM	16F	BES3	$D^+ \to K^- \pi^+ e^+ \nu_e$
895.4 ±0.2 ±0.2	243k	[2] DEL-AMO-SA...11I		BABR	$D^+ \to K^- \pi^+ e^+ \nu_e$
895.7 ±0.2 ±0.3	141k	[3] BONVICINI	08A	CLEO	$D^+ \to K^- \pi^+ \pi^+$
895.41±0.32$^{+0.35}_{-0.43}$	18k	[4] LINK	05I	FOCS	$D^+ \to K^- \pi^+ \mu^+ \nu_\mu$
896 ±2		BARBERIS	98E	OMEG	450 $pp \to p_f p_s K^* \overline{K}^*$
895.9 ±0.5 ±0.2		ASTON	88	LASS	11 $K^- p \to K^- \pi^+ n$
894.52±0.63	25k	[5] ATKINSON	86	OMEG	20–70 γp
894.63±0.76	20k	[5] ATKINSON	86	OMEG	20–70 γp
897 ±1	28k	EVANGELIS...	80	OMEG	10 $\pi^- p \to K^+ \pi^- (\Lambda, \Sigma)$
898.4 ±1.4	1180	AGUILAR-...	78B	HBC	0.76 $\overline{p}p \to K^\mp K^0_S \pi^\pm$

894.9 ±1.6			WICKLUND	78 ASPK	3,4,6 $K^\pm N \to (K\pi)^0 N$
897.6 ±0.9			BOWLER	77 DBC	5.4 $K^+ d \to K^+ \pi^- pp$
895.5 ±1.0	3600		MCCUBBIN	75 HBC	3.6 $K^- p \to K^- \pi^+ n$
897.1 ±0.7	22k	5	PALER	75 HBC	14.3 $K^- p \to (K\pi)^0 X$
896.0 ±0.6	10k		FOX	74 RVUE	2 $K^- p \to K^- \pi^+ n$
896.0 ±0.6			FOX	74 RVUE	2 $K^+ n \to K^+ \pi^- p$
896 ±2		6	MATISON	74 HBC	12 $K^+ p \to K^+ \pi^- \Delta$
896 ±1	3186		LEWIS	73 HBC	2.1–2.7 $K^+ p \to K\pi\pi p$
894.0 ±1.3		6	LINGLIN	73 HBC	2–13 $K^+ p \to$ $K^+ \pi^- \pi^+ p$
898.4 ±1.3	1700	7	BUCHNER	72 DBC	4.6 $K^+ n \to K^+ \pi^- p$
897.9 ±1.1	2934	7	AGUILAR-...	71B HBC	3.9,4.6 $K^- p \to K^- \pi^+ n$
898.0 ±0.7	5362	7	AGUILAR-...	71B HBC	3.9,4.6 $K^- p \to$ $K^- \pi^+ \pi^- p$
895 ±1	4300	8	HABER	70 DBC	3 $K^- N \to K^- \pi^+ X$
893.7 ±2.0	10k		DAVIS	69 HBC	12 $K^+ p \to K^+ \pi^- \pi^+ p$
894.7 ±1.4	1040	7	DAUBER	67B HBC	2.0 $K^- p \to K^- \pi^+ \pi^- p$

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

895.50±0.92±2.6		9	ADUSZKIEW...20A NA61		158 pp
898.1 ±1.0	4k	10	LEES	17C BABR	$J/\psi \to K^0_S K^\pm \pi^\mp$
895.53±0.17			LEES	13F BABR	$D^+ \to K^+ K^- \pi^+$
894.9 ±0.5 ±0.7	14.4k	11	MITCHELL	09A CLEO	$D^+_s \to K^+ K^- \pi^+$
896.2 ±0.3	20k	12	AUBERT	07AK BABR	10.6 $e^+ e^- \to$ $K^{*0} K^\pm \pi^\mp \gamma$
900.7 ±1.1	5900		BARTH	83 HBC	70 $K^+ p \to K^+ \pi^- X$

[1] Taking also into account the $K^*_0(1430)^0$ and $K^*_2(1430)^0$.

[2] Taking into account the $K^*(892)^0$, S-wave and P-wave ($K^*(1410)^0$).

[3] From the isobar model with a complex pole for the κ.

[4] Fit to $K\pi$ mass spectrum includes a non-resonant scalar component.

[5] Inclusive reaction. Complicated background and phase-space effects.

[6] From pole extrapolation.

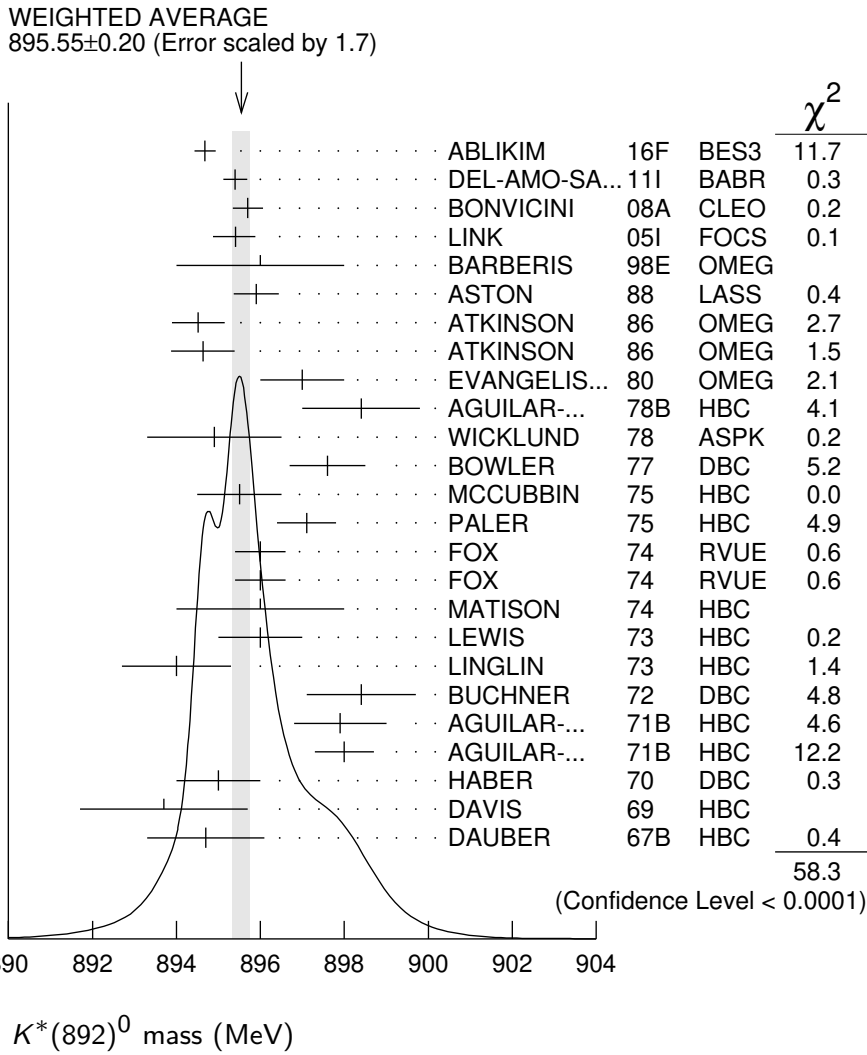[7] Mass errors enlarged by us to $\Gamma/\sqrt{N}$. See note.

[8] Number of events in peak reevaluated by us.

[9] For transverse momenta between 0.6 and 0.8 GeV/c and rapidity $0 < y < 0.5$.

[10] From a Dalitz plot analysis in an isobar model with charged and neutral $K^*(892)$ masses and widths floating.

[11] This value comes from a fit with χ^2 of 178/117.

[12] Systematic uncertainties not estimated.

WEIGHTED AVERAGE
895.55±0.20 (Error scaled by 1.7)

			χ^2
ABLIKIM	16F	BES3	11.7
DEL-AMO-SA...	11I	BABR	0.3
BONVICINI	08A	CLEO	0.2
LINK	05I	FOCS	0.1
BARBERIS	98E	OMEG	
ASTON	88	LASS	0.4
ATKINSON	86	OMEG	2.7
ATKINSON	86	OMEG	1.5
EVANGELIS...	80	OMEG	2.1
AGUILAR-...	78B	HBC	4.1
WICKLUND	78	ASPK	0.2
BOWLER	77	DBC	5.2
MCCUBBIN	75	HBC	0.0
PALER	75	HBC	4.9
FOX	74	RVUE	0.6
FOX	74	RVUE	0.6
MATISON	74	HBC	
LEWIS	73	HBC	0.2
LINGLIN	73	HBC	1.4
BUCHNER	72	DBC	4.8
AGUILAR-...	71B	HBC	4.6
AGUILAR-...	71B	HBC	12.2
HABER	70	DBC	0.3
DAVIS	69	HBC	
DAUBER	67B	HBC	0.4
			58.3

(Confidence Level < 0.0001)

890 892 894 896 898 900 902 904

$K^*(892)^0$ mass (MeV)

$K^*(892)$ MASSES AND MASS DIFFERENCES

Unrealistically small errors have been reported by some experiments. We use simple "realistic" tests for the minimum errors on the determination of a mass and width from a sample of N events:

$$\delta_{\min}(m) = \frac{\Gamma}{\sqrt{N}}, \quad \delta_{\min}(\Gamma) = 4\frac{\Gamma}{\sqrt{N}} \ . \tag{1}$$

We consistently increase unrealistic errors before averaging. For a detailed discussion, see the 1971 edition of this Note.

$$m_{K^*(892)^0} - m_{K^*(892)^\pm}$$

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
6.7±1.2 OUR AVERAGE						
7.7±1.7	2980	AGUILAR-...	78B	HBC	±0	0.76 $\overline{p}p \to K^\mp K^0_S \pi^\pm$
5.7±1.7	7338	AGUILAR-...	71B	HBC	−0	3.9,4.6 $K^- p$
6.3±4.1	283	[1] BARASH	67B	HBC		0.0 $\overline{p}p$

[1] Number of events in peak reevaluated by us.

K*(892) RANGE PARAMETER

All from partial wave amplitude analyses.

VALUE (GeV^{-1})	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
2.1 ±0.5 ±0.5	243k	[1] DEL-AMO-SA.11I		BABR	0	$D^+ \to K^- \pi^+ e^+ \nu_e$
3.96±0.54$^{+1.31}_{-0.90}$	18k	[2] LINK	05I	FOCS	0	$D^+ \to K^- \pi^+ \mu^+ \nu_\mu$
3.4 ±0.7		ASTON	88	LASS	0	11 $K^- p \to K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
12.1 ±3.2 ±3.0		BIRD	89	LASS	−	11 $K^- p \to \overline{K}^0 \pi^- p$

[1] Taking into account the $K^*(892)^0$, S-wave and P-wave ($K^*(1410)^0$).
[2] Fit to $K\pi$ mass spectrum includes a non-resonant scalar component.

K*(892) WIDTH

CHARGED ONLY, HADROPRODUCED

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
51.4±0.8 OUR FIT						
51.4±0.8 OUR AVERAGE						
54.4±0.9±1.7		ALBRECHT	20	CBAR		0.9 $\overline{p}p \to K^+ K^- \pi^0$
49 ±2	5840	BAUBILLIER	84B	HBC	−	8.25 $K^- p \to \overline{K}^0 \pi^- p$
56 ±4		NAPIER	84	SPEC	−	200 $\pi^- p \to 2K^0_S X$
51 ±2	4100	TOAFF	81	HBC	−	6.5 $K^- p \to \overline{K}^0 \pi^- p$
50.5±5.6		AJINENKO	80	HBC	+	32 $K^+ p \to K^0 \pi^+ X$
45.8±3.6	1800	AGUILAR-...	78B	HBC	±	0.76 $\overline{p}p \to K^\mp K^0_S \pi^\pm$
52.0±2.5	6706	[1] COOPER	78	HBC	±	0.76 $\overline{p}p \to (K\pi)^\pm X$
52.1±2.2	9000	[2] PALER	75	HBC	−	14.3 $K^- p \to (K\pi)^- X$
46.3±6.7	765	[1] CLARK	73	HBC	−	3.13 $K^- p \to \overline{K}^0 \pi^- p$
48.2±5.7	1150	[1,3] CLARK	73	HBC	−	3.3 $K^- p \to \overline{K}^0 \pi^- p$
54.3±3.3	4404	[1] AGUILAR-...	71B	HBC	−	3.9,4.6 $K^- p \to (K\pi)^- p$
46 ±5	1700	[1,3] WOJCICKI	64	HBC	−	1.7 $K^- p \to \overline{K}^0 \pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
46.7±0.2$^{+0.1}_{-0.2}$	183k	ABLIKIM	19AQ	BES	±	$J/\psi \to K^+ K^- \pi^0$
43.6±1.3	4k	[4] LEES	17C	BABR		$J/\psi \to K^0_S K^\pm \pi^\mp$
47.2±0.3±2.3	190k	[5] AAIJ	16N	LHCB		$D^0 \to K^0_S K^\pm \pi^\mp$
54.8±1.7	27k	[6] ABELE	99D	CBAR	±	0.0 $\overline{p}p \to K^+ K^- \pi^0$
45.2±1 ±2	80k	[7] BIRD	89	LASS	−	11 $K^- p \to \overline{K}^0 \pi^- p$

VALUE	EVTS		DOCUMENT ID		TECN		COMMENT
42.8 ± 7.1	3700		BARTH	83	HBC	+	70 $K^+ p \to K^0 \pi^+ X$
64.0 ± 9.2	800	[1,3]	CLELAND	82	SPEC	+	30 $K^+ p \to K^0_S \pi^+ p$
62.0 ± 4.4	3200	[1,3]	CLELAND	82	SPEC	+	50 $K^+ p \to K^0_S \pi^+ p$
55 ± 4	3600	[1,3]	CLELAND	82	SPEC	−	50 $K^+ p \to K^0_S \pi^- p$
62.6 ± 3.8	380		DELFOSSE	81	SPEC	+	50 $K^\pm p \to K^\pm \pi^0 p$
50.5 ± 3.9	187		DELFOSSE	81	SPEC	−	50 $K^\pm p \to K^\pm \pi^0 p$

[1] Width errors enlarged by us to $4 \times \Gamma / \sqrt{N}$; see note.

[2] Inclusive reaction. Complicated background and phase-space effects.

[3] Number of events in peak reevaluated by us.

[4] From a Dalitz plot analysis in an isobar model with charged and neutral $K^*(892)$ masses and widths floating.

[5] Average of fit results with different parametrizations for the $K \pi$ S-wave.

[6] K-matrix pole.

[7] From a partial wave amplitude analysis.

CHARGED ONLY, PRODUCED IN τ LEPTON DECAYS

VALUE (MeV)	EVTS		DOCUMENT ID		TECN	COMMENT
$46.2 \pm 0.6 \pm 1.2$	53k	[1]	EPIFANOV	07	BELL	$\tau^- \to K^0_S \pi^- \nu_\tau$

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

46.5 ± 1.1		[2]	BOITO	10	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
46.2 ± 0.4		[3,4]	BOITO	09	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
47.5 ± 0.4		[4,5]	JAMIN	08	RVUE	$\tau^- \to K^0_S \pi^- \nu_\tau$
55 ± 8		[6]	BARATE	99R	ALEP	$\tau^- \to K^- \pi^0 \nu_\tau$

[1] From a fit in the $K^*_0(700) + K^*(892) + K^*(1410)$ model.

[2] From the pole position of the $K \pi$ vector form factor using EPIFANOV 07 and constraints from K_{l3} decays in ANTONELLI 10.

[3] From the pole position of the $K \pi$ vector form factor in the complex s-plane and using EPIFANOV 07 data.

[4] Systematic uncertainties not estimated.

[5] Reanalysis of EPIFANOV 07 using resonance chiral theory.

[6] With mass and width of the $K^*(1410)$ fixed at 1412 MeV and 227 MeV, respectively.

NEUTRAL ONLY

VALUE (MeV)	EVTS		DOCUMENT ID		TECN	COMMENT
47.3 ± 0.5 OUR FIT		Error includes scale factor of 2.0.				
47.3 ± 0.5 OUR AVERAGE		Error includes scale factor of 2.0. See the ideogram below.				
$46.53 \pm 0.56 \pm 0.31$		[1]	ABLIKIM	16F	BES3	$D^+ \to K^- \pi^+ e^+ \nu_e$
$46.5 \pm 0.3 \pm 0.2$	243k	[2]	DEL-AMO-SA...11I	BABR	$D^+ \to K^- \pi^+ e^+ \nu_e$
$45.3 \pm 0.5 \pm 0.6$	141k	[3]	BONVICINI	08A	CLEO	$D^+ \to K^- \pi^+ \pi^+$
$47.79 \pm 0.86 ^{+1.32}_{-1.06}$	18k	[4]	LINK	05I	FOCS	$D^+ \to K^- \pi^+ \mu^+ \nu_\mu$
54 ± 3			BARBERIS	98E	OMEG	450 $pp \to p_f p_s K^* \overline{K}^*$
$50.8 \pm 0.8 \pm 0.9$			ASTON	88	LASS	11 $K^- p \to K^- \pi^+ n$
46.5 ± 4.3	5900		BARTH	83	HBC	70 $K^+ p \to K^+ \pi^- X$
54 ± 2	28k		EVANGELIS...	80	OMEG	10 $\pi^- p \to K^+ \pi^- (\Lambda, \Sigma)$
45.9 ± 4.8	1180		AGUILAR-...	78B	HBC	0.76 $\overline{p} p \to K^\mp K^0_S \pi^\pm$
51.2 ± 1.7			WICKLUND	78	ASPK	3,4,6 $K^\pm N \to (K\pi)^0 N$
48.9 ± 2.5			BOWLER	77	DBC	5.4 $K^+ d \to K^+ \pi^- p p$

48	$^{+3}_{-2}$	3600	MCCUBBIN	75 HBC	3.6 $K^- p \to K^- \pi^+ n$
50.6	± 2.5	22k	[5] PALER	75 HBC	14.3 $K^- p \to (K\pi)^0$ X
47	± 2	10k	FOX	74 RVUE	2 $K^- p \to K^- \pi^+ n$
51	± 2		FOX	74 RVUE	2 $K^+ n \to K^+ \pi^- p$
46.0	± 3.3	3186	[6] LEWIS	73 HBC	2.1–2.7 $K^+ p \to K\pi\pi p$
51.4	± 5.0	1700	[6] BUCHNER	72 DBC	4.6 $K^+ n \to K^+ \pi^- p$
55.8	$^{+4.2}_{-3.4}$	2934	[6] AGUILAR-...	71B HBC	3.9,4.6 $K^- p \to K^- \pi^+ n$
48.5	± 2.7	5362	AGUILAR-...	71B HBC	3.9,4.6 $K^- p \to$ $K^- \pi^+ \pi^- p$
54.0	± 3.3	4300	[6,7] HABER	70 DBC	3 $K^- N \to K^- \pi^+ $ X
53.2	± 2.1	10k	[6] DAVIS	69 HBC	12 $K^+ p \to K^+ \pi^- \pi^+ p$
44	± 5.5	1040	[6] DAUBER	67B HBC	2.0 $K^- p \to K^- \pi^+ \pi^- p$

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

48.8	± 1.8 ± 2.0		[8] ADUSZKIEW...20A	NA61	158 pp
52.6	± 1.7	4k	[9] LEES	17C BABR	$J/\psi \to K^0_S K^\pm \pi^\mp$
44.90	± 0.30		LEES	13F BABR	$D^+ \to K^+ K^- \pi^+$
45.7	± 1.1 ± 0.5	14.4k	[10] MITCHELL	09A CLEO	$D^+_s \to K^+ K^- \pi^+$
50.6	± 0.9	20k	[11] AUBERT	07AK BABR	10.6 $e^+ e^- \to$ $K^{*0} K^\pm \pi^\mp \gamma$

[1] Taking also into account the $K^*_0(1430)^0$ and $K^*_2(1430)^0$.

[2] Taking into account the $K^*(892)^0$, *S*-wave and *P*-wave ($K^*(1410)^0$).

[3] From the isobar model with a complex pole for the κ.

[4] Fit to $K\pi$ mass spectrum includes a non-resonant scalar component.

[5] Inclusive reaction. Complicated background and phase-space effects.

[6] Width errors enlarged by us to $4 \times \Gamma/\sqrt{N}$; see note.

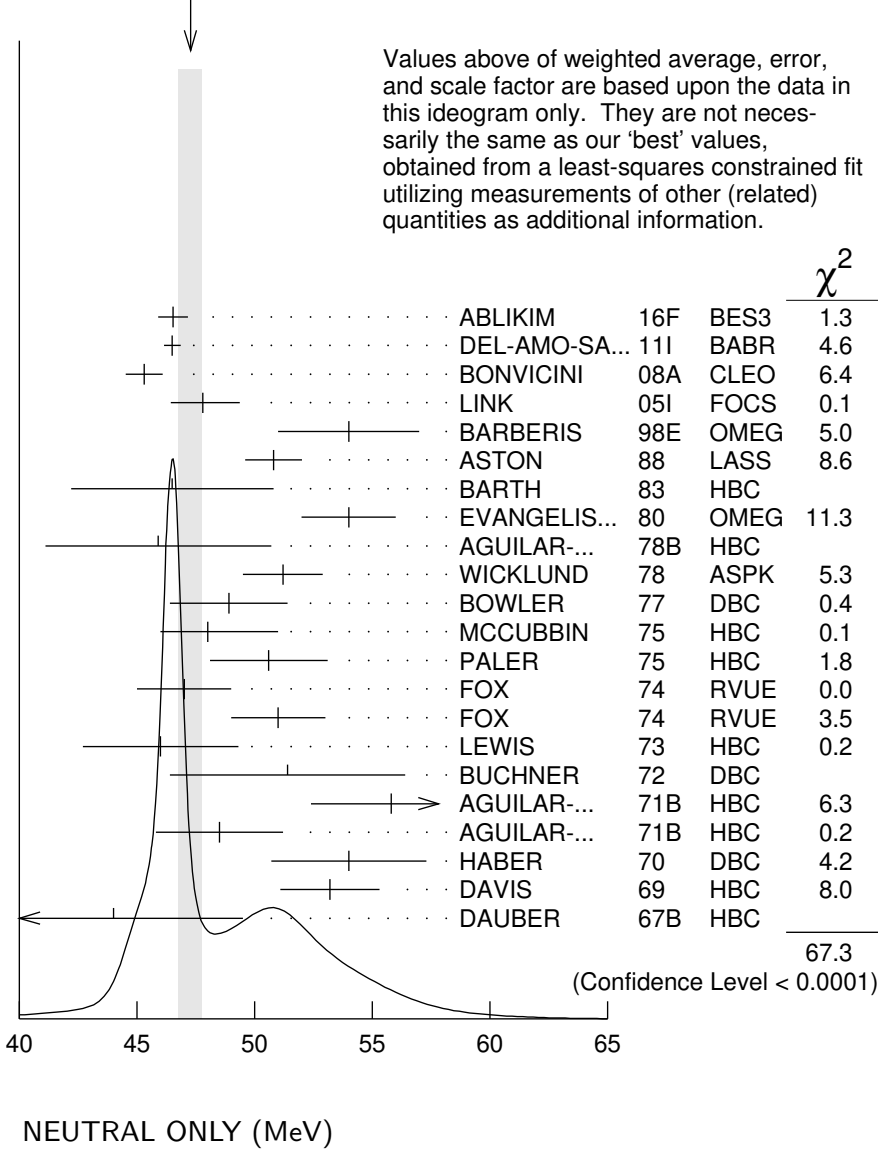[7] Number of events in peak reevaluated by us.

[8] For transverse momenta between 0.6 and 0.8 GeV/c and rapidity $0 < y < 0.5$.

[9] From a Dalitz plot analysis in an isobar model with charged and neutral $K^*(892)$ masses and widths floating.

[10] This value comes from a fit with χ^2 of 178/117.

[11] Systematic uncertainties not estimated.

WEIGHTED AVERAGE
47.3±0.5 (Error scaled by 2.0)

Values above of weighted average, error, and scale factor are based upon the data in this ideogram only. They are not necessarily the same as our 'best' values, obtained from a least-squares constrained fit utilizing measurements of other (related) quantities as additional information.

χ^2

ABLIKIM	16F	BES3	1.3
DEL-AMO-SA...	11I	BABR	4.6
BONVICINI	08A	CLEO	6.4
LINK	05I	FOCS	0.1
BARBERIS	98E	OMEG	5.0
ASTON	88	LASS	8.6
BARTH	83	HBC	
EVANGELIS...	80	OMEG	11.3
AGUILAR-...	78B	HBC	
WICKLUND	78	ASPK	5.3
BOWLER	77	DBC	0.4
MCCUBBIN	75	HBC	0.1
PALER	75	HBC	1.8
FOX	74	RVUE	0.0
FOX	74	RVUE	3.5
LEWIS	73	HBC	0.2
BUCHNER	72	DBC	
AGUILAR-...	71B	HBC	6.3
AGUILAR-...	71B	HBC	0.2
HABER	70	DBC	4.2
DAVIS	69	HBC	8.0
DAUBER	67B	HBC	

67.3
(Confidence Level < 0.0001)

40   45   50   55   60   65

NEUTRAL ONLY (MeV)

$K^*(892)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Confidence level
Γ_1	$K\pi$	~ 100 %	
Γ_2	$(K\pi)^\pm$	(99.902 ± 0.009) %	
Γ_3	$(K\pi)^0$	(99.754 ± 0.021) %	
Γ_4	$K^0\gamma$	($2.46\ \pm0.21$) $\times 10^{-3}$	
Γ_5	$K^\pm\gamma$	($9.8\ \ \pm0.9$) $\times 10^{-4}$	
Γ_6	$K\pi\pi$	$<\ \ 7\ \ \ \times 10^{-4}$	95%

CONSTRAINED FIT INFORMATION

An overall fit to the total width and a partial width uses 14 measurements and one constraint to determine 3 parameters. The overall fit has a $\chi^2 = 10.7$ for 12 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\left\langle \delta p_i \delta p_j \right\rangle / (\delta p_i \cdot \delta p_j)$, in percent, from the fit to parameters p_i, including the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{total}$. The fit constrains the x_i whose labels appear in this array to sum to one.

$$
\begin{array}{c|cc}
x_5 & -100 & \\
\Gamma & 17 & -17 \\
\hline
& x_2 & x_5
\end{array}
$$

	Mode	Rate (MeV)
Γ_2	$(K\pi)^{\pm}$	$51.4 \ \pm 0.8$
Γ_5	$K^{\pm}\gamma$	0.050 ± 0.005

CONSTRAINED FIT INFORMATION

An overall fit to the total width and a partial width uses 23 measurements and one constraint to determine 3 parameters. The overall fit has a $\chi^2 = 68.4$ for 21 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\left\langle \delta p_i \delta p_j \right\rangle / (\delta p_i \cdot \delta p_j)$, in percent, from the fit to parameters p_i, including the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{total}$. The fit constrains the x_i whose labels appear in this array to sum to one.

$$
\begin{array}{c|cc}
x_4 & -100 & \\
\Gamma & 13 & -13 \\
\hline
& x_3 & x_4
\end{array}
$$

	Mode	Rate (MeV)	Scale factor
Γ_3	$(K\pi)^0$	$47.2 \ \pm 0.5$	2.0
Γ_4	$K^0\gamma$	0.117 ± 0.010	

$K^*(892)$ PARTIAL WIDTHS

$\Gamma(K^0\gamma)$ $\hspace{4cm}$ Γ_4

VALUE (keV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
116 $\pm$10 OUR FIT					
116.5$\pm$ 9.9	584	CARLSMITH 86	SPEC	0	$K_L^0 A \rightarrow K_S^0 \pi^0 A$

$\Gamma(K^\pm\gamma)$ Γ_5

VALUE (keV)	DOCUMENT ID		TECN	CHG	COMMENT
50± 5 OUR FIT					
50± 5 OUR AVERAGE					
48±11	BERG	83	SPEC	−	156 K^-A $\rightarrow$ $\overline{K}\pi$A
51± 5	CHANDLEE	83	SPEC	+	200 K^+A $\rightarrow$ $K\pi$A

$K^*(892)$ BRANCHING RATIOS

$\Gamma(K^0\gamma)/\Gamma_{total}$ Γ_4/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	CHG	COMMENT
2.46±0.21 OUR FIT					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.5 ±0.7	CARITHERS	75B	CNTR	0	8–16 $\overline{K}^0$A

$\Gamma(K^\pm\gamma)/\Gamma_{total}$ Γ_5/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	CHG	COMMENT
0.98±0.09 OUR FIT						
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<1.6	95	BEMPORAD	73	CNTR	+	10–16 K^+A

$\Gamma(K\pi\pi)/\Gamma((K\pi)^\pm)$ Γ_6/Γ_2

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
< 7 × 10^{-4}	95	JONGEJANS	78	HBC		4 $K^-p \rightarrow p\overline{K}^0 2\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<20 × 10^{-4}		WOJCICKI	64	HBC	−	1.7 $K^-p \rightarrow \overline{K}^0\pi^-p$

$K^*(892)$ REFERENCES

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PELAEZ	17	EPJ C77 91	J.R. Pelaez, A.Rodas, J.R. de Elvira	
AAIJ	16N	PR D93 052018	R. Aaij *et al.*	(LHCb Collab.)
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MITCHELL	09A	PR D79 072008	R.E. Mitchell *et al.*	(CLEO Collab.)
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JAMIN	08	PL B664 78	M. Jamin, A. Pich, J. Portoles	
AUBERT	07AK	PR D76 012008	B. Aubert *et al.*	(BABAR Collab.)
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PDG	00	EPJ C15 1	D.E. Groom *et al.*	(PDG Collab.)
ABELE	99D	PL B468 178	A. Abele *et al.*	(Crystal Barrel Collab.)
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BERG	83	Thesis UMI 83-21652	D.M. Berg	(ROCH)
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Also		PR D17 658	P.G. Estabrooks *et al.*	(MCGI, CARL, DURH+)
JONGEJANS	78	NP B139 383	B. Jongejans *et al.*	(ZEEM, CERN, NIJM+)
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