# $K^*(892)$

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

## $K^*(892)$ MASS

### CHARGED ONLY, HADROPRODUCED

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | CHG | COMMENT |
|---|---|---|---|---|---|
| **891.76±0.25 OUR AVERAGE** | | | | | |
| 893.2 ±0.1 ±1.0 | 190k | [1] AAIJ 16N | LHCB | | $D^0 \to K^0_S K^\pm \pi^\mp$ |
| 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 | ± | 0.76 $\overline{p} p \to K^\mp K^0_S \pi^\pm$ |
| 886.6 ±2.4 | 1225 | BALAND 78 | HBC | ± | 12 $\overline{p} p \to (K\pi)^\pm X$ |
| 891.7 ±0.6 | 6706 | COOPER 78 | HBC | ± | 0.76 $\overline{p} p \to (K\pi)^\pm X$ |
| 891.9 ±0.7 | 9000 | [2] 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 | ± | 1.2 $\overline{p} p \to (K^0 \pi)^\pm K^\mp$ |
| 889 ±3.0 | 600 | BARLOW 67 | HBC | ± | 1.2 $\overline{p} p \to (K^0 \pi)^\pm K \pi$ |
| 891 ±2.3 | 620 | [3] DEBAERE 67B | HBC | + | 3.5 $K^+ p \to K^0 \pi^+ p$ |
| 891.0 ±1.2 | 1700 | [4] 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. • • • | | | | | |
| 893.5 ±1.1 | 27k | [5] ABELE 99D | CBAR | ± | 0.0 $\overline{p} p \to K^+ K^- \pi^0$ |
| 890.4 ±0.2 ±0.5 | 80k | [6] BIRD 89 | LASS | − | 11 $K^- p \to \overline{K}^0 \pi^- p$ |
| 890.0 ±2.3 | 800 | [3,4] CLELAND 82 | SPEC | + | 30 $K^+ p \to K^0_S \pi^+ p$ |
| 896.0 ±1.1 | 3200 | [3,4] CLELAND 82 | SPEC | + | 50 $K^+ p \to K^0_S \pi^+ p$ |
| 893 ±1 | 3600 | [3,4] 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 | [3] CLARK 73 | HBC | − | 3.13 $K^- p \to \overline{K}^0 \pi^- p$ |
| 894.3 ±1.5 | 1150 | [3,4] CLARK 73 | HBC | − | 3.3 $K^- p \to \overline{K}^0 \pi^- p$ |
| 892.0 ±2.6 | 341 | [3] SCHWEING...68 | HBC | − | 5.5 $K^- p \to \overline{K}^0 \pi^- p$ |

[1] Average of fit results with different parametrizations for the $K\pi$ $S$-wave.
[2] Inclusive reaction. Complicated background and phase-space effects.
[3] Mass errors enlarged by us to $\Gamma/\sqrt{N}$. See note.
[4] Number of events in peak reevaluated by us.
[5] K-matrix pole.
[6] From a partial wave amplitude analysis.

## CHARGED ONLY, PRODUCED IN $\tau$ 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 $K^*_0(800)$ + $K^*(892)$ + $K^*(1410)$ 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.

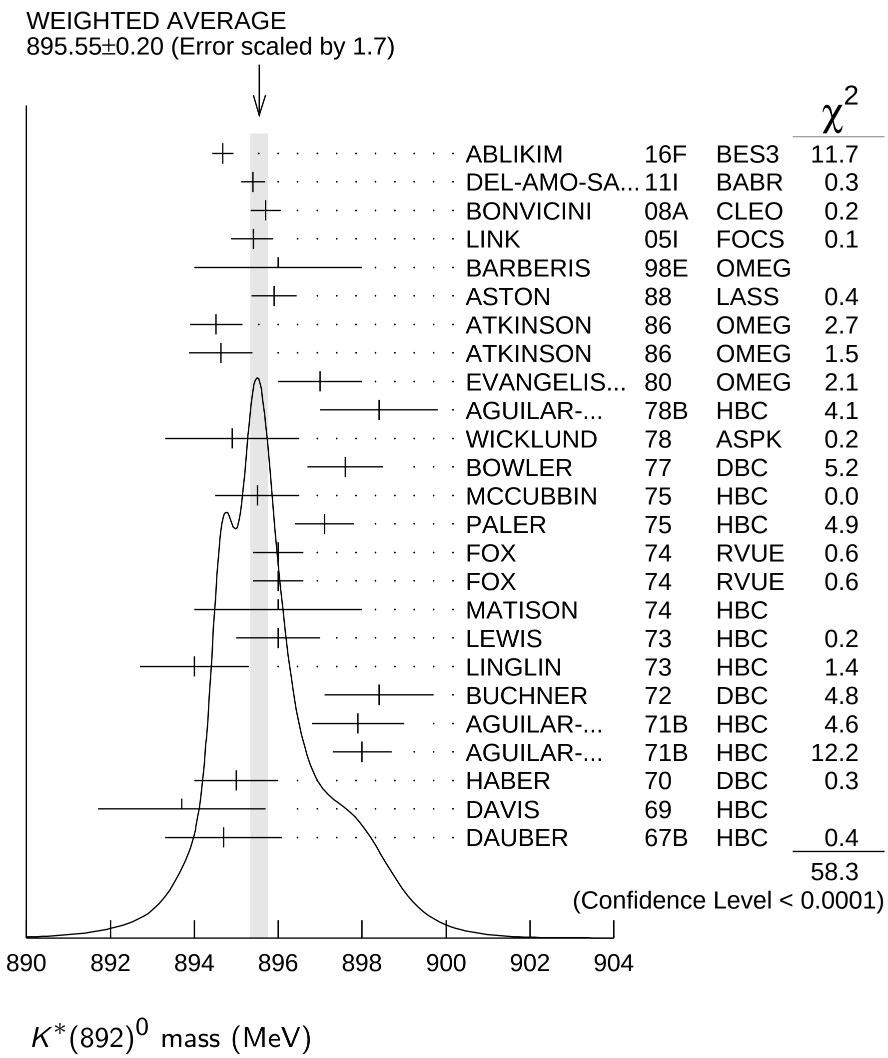
## NEUTRAL ONLY

| 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 $\gamma p$ |
| 894.63±0.76 | 20k | [5] ATKINSON | 86 | OMEG | 20–70 $\gamma p$ |
| 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. • • •

| | | | | | |
|---|---|---|---|---|---|
| 895.53±0.17 | | LEES | 13F | BABR | $D^+ \rightarrow K^+ K^- \pi^+$ |
| 894.9 ±0.5 ±0.7 | 14.4k | [9] MITCHELL | 09A | CLEO | $D_s^+ \rightarrow K^+ K^- \pi^+$ |
| 896.2 ±0.3 | 20k | [10] AUBERT | 07AK | BABR | 10.6 $e^+ e^- \rightarrow K^{*0} K^\pm \pi^\mp \gamma$ |
| 900.7 ±1.1 | 5900 | BARTH | 83 | HBC | 70 $K^+ p \rightarrow K^+ \pi^- X$ |

[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 $\kappa$.
[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] This value comes from a fit with $\chi^2$ of 178/117.
[10] Systematic uncertainties not estimated.



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

| 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 $\overline{p}p \rightarrow K^\mp K^0_S \pi^\pm$ |
| 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 | $D^+ \rightarrow K^- \pi^+ e^+ \nu_e$ |
| 3.96±0.54$^{+1.31}_{-0.90}$ | 18k | [2] LINK | 05I | FOCS | 0 | $D^+ \rightarrow K^- \pi^+ \mu^+ \nu_\mu$ |
| 3.4 ±0.7 | | ASTON | 88 | LASS | 0 | 11 $K^- p \rightarrow K^- \pi^+ n$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | | |
| 12.1 ±3.2 ±3.0 | | BIRD | 89 | LASS | − | 11 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |

[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 |
|---|---|---|---|---|---|---|
| **50.3±0.8 OUR FIT** | | | | | | |
| **50.3±0.8 OUR AVERAGE** | | | | | | |
| 47.2±0.3±2.3 | 190k | [1] AAIJ | 16N | LHCB | | $D^0 \rightarrow K^0_S K^\pm \pi^\mp$ |
| 49 ±2 | 5840 | BAUBILLIER | 84B | HBC | − | 8.25 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |
| 56 ±4 | | NAPIER | 84 | SPEC | − | 200 $\pi^- p \rightarrow 2K^0_S X$ |
| 51 ±2 | 4100 | TOAFF | 81 | HBC | − | 6.5 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |
| 50.5±5.6 | | AJINENKO | 80 | HBC | + | 32 $K^+ p \rightarrow K^0 \pi^+ X$ |
| 45.8±3.6 | 1800 | AGUILAR-... | 78B | HBC | ± | 0.76 $\overline{p}p \rightarrow K^\mp K^0_S \pi^\pm$ |
| 52.0±2.5 | 6706 | [2] COOPER | 78 | HBC | ± | 0.76 $\overline{p}p \rightarrow (K\pi)^\pm X$ |
| 52.1±2.2 | 9000 | [3] PALER | 75 | HBC | − | 14.3 $K^- p \rightarrow (K\pi)^- X$ |
| 46.3±6.7 | 765 | [2] CLARK | 73 | HBC | − | 3.13 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |
| 48.2±5.7 | 1150 | [2,4] CLARK | 73 | HBC | − | 3.3 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |
| 54.3±3.3 | 4404 | [2] AGUILAR-... | 71B | HBC | − | 3.9,4.6 $K^- p \rightarrow (K\pi)^- p$ |
| 46 ±5 | 1700 | [2,4] WOJCICKI | 64 | HBC | − | 1.7 $K^- p \rightarrow \overline{K}^0 \pi^- p$ |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| 54.8±1.7 | 27k | [5] ABELE | 99D | CBAR | ± | 0.0 $\overline{p}p \to K^+ K^- \pi^0$ |
| 45.2±1 ±2 | 80k | [6] BIRD | 89 | LASS | − | 11 $K^- p \to \overline{K}^0 \pi^- p$ |
| 42.8±7.1 | 3700 | BARTH | 83 | HBC | + | 70 $K^+ p \to K^0 \pi^+ X$ |
| 64.0±9.2 | 800 | [2,4] CLELAND | 82 | SPEC | + | 30 $K^+ p \to K^0_S \pi^+ p$ |
| 62.0±4.4 | 3200 | [2,4] CLELAND | 82 | SPEC | + | 50 $K^+ p \to K^0_S \pi^+ p$ |
| 55 ±4 | 3600 | [2,4] 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] Average of fit results with different parametrizations for the $K\pi$ $S$-wave.
[2] Width errors enlarged by us to $4 \times \Gamma/\sqrt{N}$; see note.
[3] Inclusive reaction. Complicated background and phase-space effects.
[4] Number of events in peak reevaluated by us.
[5] K-matrix pole.
[6] From a partial wave amplitude analysis.

## CHARGED ONLY, PRODUCED IN $\tau$ LEPTON DECAYS

| VALUE (MeV) | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| **46.2±0.6±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 $K^*_0(800)$ + $K^*(892)$ + $K^*(1410)$ 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.

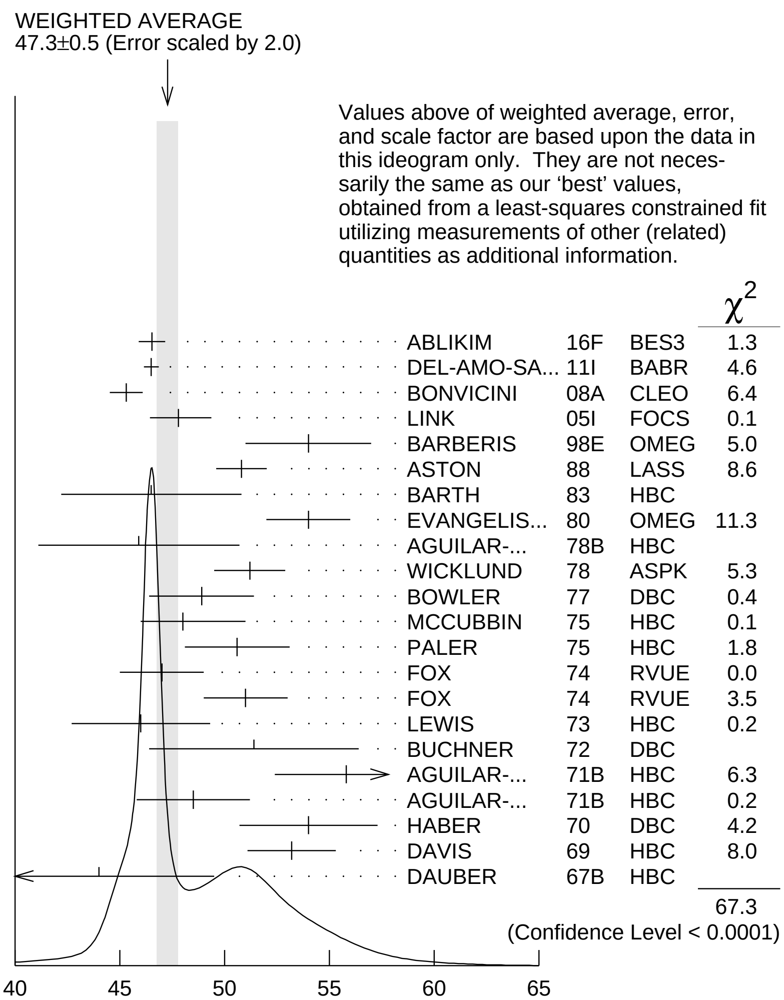
## NEUTRAL ONLY

| VALUE (MeV) | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| **47.3 ±0.5 OUR FIT** Error includes scale factor of 1.9. | | | | | |
| **47.3 ±0.5 OUR AVERAGE** Error includes scale factor of 2.0. See the ideogram below. | | | | | |
| 46.53±0.56±0.31 | | [1] ABLIKIM | 16F | BES3 | $D^+ \to K^- \pi^+ e^+ \nu_e$ |
| 46.5 ±0.3 ±0.2 | 243k | [2] DEL-AMO-SA... | 11I | BABR | $D^+ \to K^- \pi^+ e^+ \nu_e$ |
| 45.3 ±0.5 ±0.6 | 141k | [3] BONVICINI | 08A | CLEO | $D^+ \to K^- \pi^+ \pi^+$ |
| 47.79±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 ±0.8 ±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 $K^+ d \to K^+ \pi^- pp$ |

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

| | | | | | |
|---|---|---|---|---|---|
| 44.90 $\pm 0.30$ | | LEES | 13F | BABR | $D^+ \to K^+ K^- \pi^+$ |
| 45.7 $\pm 1.1$ $\pm 0.5$ | 14.4k | [8] MITCHELL | 09A | CLEO | $D_s^+ \to K^+ K^- \pi^+$ |
| 50.6 $\pm 0.9$ | 20k | [9] AUBERT | 07AK | BABR | 10.6 $e^+ e^- \to K^{*0} K^\pm \pi^\mp \gamma$ |




NEUTRAL ONLY (MeV)

[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 $\kappa$.
[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] This value comes from a fit with $\chi^2$ of 178/117.
[9] Systematic uncertainties not estimated.

## *K**(892) DECAY MODES

| | Mode | Fraction ($\Gamma_i/\Gamma$) | Confidence level |
|---|---|---|---|
| $\Gamma_1$ | $K\pi$ | $\sim$ 100 % | |
| $\Gamma_2$ | $(K\pi)^\pm$ | ( 99.900±0.009) % | |
| $\Gamma_3$ | $(K\pi)^0$ | ( 99.754±0.021) % | |
| $\Gamma_4$ | $K^0\gamma$ | ( 2.46 ±0.21 ) $\times 10^{-3}$ | |
| $\Gamma_5$ | $K^\pm\gamma$ | ( 1.00 ±0.09 ) $\times 10^{-3}$ | |
| $\Gamma_6$ | $K\pi\pi$ | < 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 $\chi^2 = 9.8$ 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, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$. The fit constrains the $x_i$ whose labels appear in this array to sum to one.

| | | |
|---|---|---|
| $x_5$ | −100 | |
| $\Gamma$ | 18 | −18 |
| | $x_2$ | $x_5$ |

| | Mode | Rate (MeV) |
|---|---|---|
| $\Gamma_2$ | $(K\pi)^\pm$ | 50.2 ±0.8 |
| $\Gamma_5$ | $K^\pm\gamma$ | 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 $\langle \delta p_i \delta p_j \rangle / (\delta p_i \cdot \delta p_j)$, 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.

| | | |
|---|---|---|
| $x_4$ | −100 | |
| $\Gamma$ | 12 | −12 |
| | $x_3$ | $x_4$ |

| | Mode | Rate (MeV) | Scale factor |
|---|---|---|---|
| $\Gamma_3$ | $(K\pi)^0$ | 47.2 ±0.5 | 1.9 |
| $\Gamma_4$ | $K^0\gamma$ | 0.117±0.010 | |

## $K^*(892)$ PARTIAL WIDTHS

### $\Gamma(K^0\gamma)$ — $\Gamma_4$

| VALUE (keV) | EVTS | DOCUMENT ID | | TECN | CHG | COMMENT |
|---|---|---|---|---|---|---|
| **116 ±10 OUR FIT** | | | | | | |
| **116.5± 9.9** | 584 | CARLSMITH | 86 | SPEC | 0 | $K^0_L A \to K^0_S \pi^0 A$ |

### $\Gamma(K^\pm\gamma)$ — $\Gamma_5$

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

## $K^*(892)$ BRANCHING RATIOS

### $\Gamma(K^0\gamma)/\Gamma_{total}$ — $\Gamma_4/\Gamma$

| 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 $\overline{K}^0 A$ |

### $\Gamma(K^\pm\gamma)/\Gamma_{total}$ — $\Gamma_5/\Gamma$

| VALUE (units $10^{-3}$) | CL% | DOCUMENT ID | | TECN | CHG | COMMENT |
|---|---|---|---|---|---|---|
| **1.00±0.09 OUR FIT** | | | | | | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | | |
| <1.6 | 95 | BEMPORAD | 73 | CNTR | + | 10–16 $K^+ A$ |

### $\Gamma(K\pi\pi)/\Gamma((K\pi)^{\pm})$ $\Gamma_6/\Gamma_2$

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

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