

$\Sigma(1385) P_{13}$ $I(J^P) = 1(\frac{3}{2}^+)$ Status: ****

Discovered by ALSTON 60. Early measurements of the mass and width for combined charge states have been omitted. They may be found in our 1984 edition Reviews of Modern Physics **56** No. 2 Pt. II (1984).

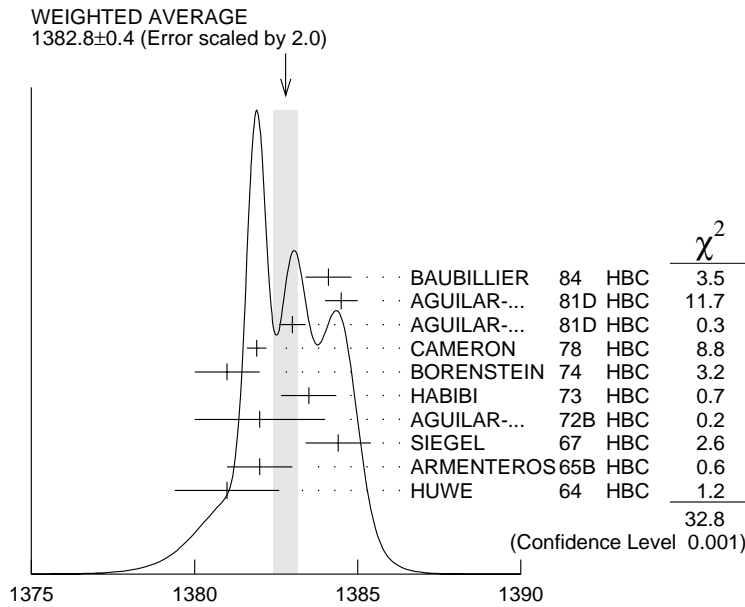
We average only the most significant determinations. We do not average results from inclusive experiments with large backgrounds or results which are not accompanied by some discussion of experimental resolution. Nevertheless systematic differences between experiments remain. (See the ideograms in the Listings below.) These differences could arise from interference effects that change with production mechanism and/or beam momentum. They can also be accounted for in part by differences in the parametrizations employed. (See BORENSTEIN 74 for a discussion on this point.) Thus BORENSTEIN 74 uses a Breit-Wigner with energy-independent width, since a P -wave was found to give unsatisfactory fits. CAMERON 78 uses the same form. On the other hand HOLMGREN 77 obtains a good fit to their $\Lambda\pi$ spectrum with a P -wave Breit-Wigner, but includes the partial width for the $\Sigma\pi$ decay mode in the parametrization. AGUILAR-BENITEZ 81D gives masses and widths for five different Breit-Wigner shapes. The results vary considerably. Only the best-fit S -wave results are given here.

$\Sigma(1385)$ MASSES

$\Sigma(1385)^+$ MASS

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|--------------------|---|-------------|--|
| 1382.8±0.4 | OUR AVERAGE | Error includes scale factor of 2.0. See the ideogram below. | | |
| 1384.1±0.7 | 1897 | BAUBILLIER 84 | HBC | $K^- p$ 8.25 GeV/ c |
| 1384.5±0.5 | 5256 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda\pi\pi$ 4.2 GeV/ c |
| 1383.0±0.4 | 9361 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/ c |
| 1381.9±0.3 | 6900 | CAMERON 78 | HBC | $K^- p$ 0.96–1.36 GeV/ c |
| 1381 ±1 | 6846 | BORENSTEIN 74 | HBC | $K^- p$ 2.18 GeV/ c |
| 1383.5±0.85 | 2300 | HABIBI 73 | HBC | $K^- p \rightarrow \Lambda\pi\pi$ |
| 1382 ±2 | 400 | AGUILAR-... | 72B HBC | $K^- p \rightarrow \Lambda\pi$'s |
| 1384.4±1.0 | 1260 | SIEGEL 67 | HBC | $K^- p$ 2.1 GeV/ c |
| 1382 ±1 | 750 | ARMENTEROS ^{65B} | HBC | $K^- p$ 0.9–1.2 GeV/ c |
| 1381.0±1.6 | 859 | HUWE 64 | HBC | $K^- p$ 1.22 GeV/ c |
| ••• | | We do not use the following data for averages, fits, limits, etc. ••• | | |
| 1385.1±1.2 | 600 | BAKER 80 | HYBR | $\pi^+ p$ 7 GeV/ c |
| 1383.2±1.0 | 750 | BAKER 80 | HYBR | $K^- p$ 7 GeV/ c |
| 1381 ±2 | 7k | ¹ BAUBILLIER 79B | HBC | $K^- p$ 8.25 GeV/ c |
| 1391 ±2 | 2k | CAUTIS 79 | HYBR | $\pi^+ p/K^- p$ 11.5 GeV |
| 1390 ±2 | 100 | ¹ SUGAHARA 79B | HBC | $\pi^- p$ 6 GeV/ c |
| 1385 ±3 | 22k | ^{1,2} BARREIRO 77B | HBC | $K^- p$ 4.2 GeV/ c |

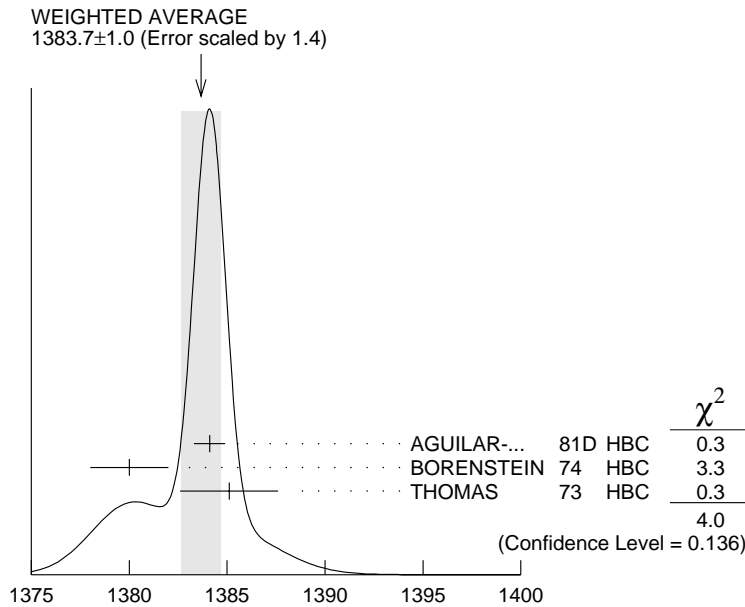
| | | | | | |
|------------|------|---------------------------|-----|------|---|
| 1385 ±1 | 2594 | HOLMGREN | 77 | HBC | See AGUILAR 81D |
| 1380 ±2 | | ¹ BARDADIN-... | 75 | HBC | $K^- p$ 14.3 GeV/c |
| 1382 ±1 | 3740 | ³ BERTHON | 74 | HBC | $K^- p$ 1263–1843 MeV/c |
| 1390 ±6 | 46 | AGUILAR-... | 70B | HBC | $K^- p \rightarrow \Sigma \pi$'s 4 GeV/c |
| 1383 ±8 | 62 | ⁴ BIRMINGHAM | 66 | HBC | $K^- p$ 3.5 GeV/c |
| 1378 ±5 | 135 | LONDON | 66 | HBC | $K^- p$ 2.24 GeV/c |
| 1384.3±1.9 | 250 | ⁴ SMITH | 65 | HBC | $K^- p$ 1.8 GeV/c |
| 1382.6±2.1 | 250 | ⁴ SMITH | 65 | HBC | $K^- p$ 1.95 GeV/c |
| 1375.0±3.9 | 170 | COOPER | 64 | HBC | $K^- p$ 1.45 GeV/c |
| 1376.0±3.9 | 154 | ⁴ ELY | 61 | HLBC | $K^- p$ 1.11 GeV/c |



$\Sigma(1385)^+$ mass (MeV)

$\Sigma(1385)^0$ MASS

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|-------|-------------------------------|---------|---|
| 1383.7±1.0 OUR AVERAGE | Error | includes scale factor of 1.4. | | See the ideogram below. |
| 1384.1±0.8 | 5722 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/c |
| 1380 ±2 | 3100 | ⁵ BORENSTEIN | 74 HBC | $K^- p \rightarrow \Lambda 3\pi$ 2.18 GeV/c |
| 1385.1±2.5 | 240 | ⁴ THOMAS | 73 HBC | $\pi^- p \rightarrow \Lambda \pi^0 K^0$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| 1389 ±3 | 500 | ⁶ BAUBILLIER | 79B HBC | $K^- p$ 8.25 GeV/c |

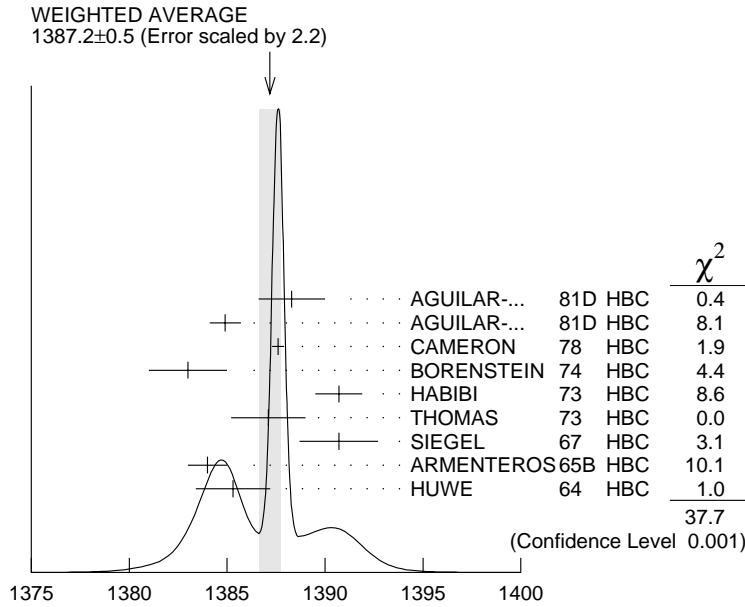


$\Sigma(1385)^0$ mass (MeV)

$\Sigma(1385)^-$ MASS

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|-------------|-------------------------------------|-------------|---|
| 1387.2±0.5 OUR AVERAGE | | Error includes scale factor of 2.2. | | See the ideogram below. |
| 1388.3±1.7 | 620 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda \pi \pi$ 4.2 GeV/c |
| 1384.9±0.8 | 3346 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/c |
| 1387.6±0.3 | 9720 | CAMERON | 78 HBC | $K^- p$ 0.96–1.36 GeV/c |
| 1383 ±2 | 2303 | BORENSTEIN | 74 HBC | $K^- p$ 2.18 GeV/c |
| 1390.7±1.2 | 1900 | HABIBI | 73 HBC | $K^- p \rightarrow \Lambda \pi \pi$ |
| 1387.1±1.9 | 630 | ⁴ THOMAS | 73 HBC | $\pi^- p \rightarrow \Lambda \pi^- K^+$ |
| 1390.7±2.0 | 370 | SIEGEL | 67 HBC | $K^- p$ 2.1 GeV/c |
| 1384 ±1 | 1380 | ARMENTEROS65B | HBC | $K^- p$ 0.9–1.2 GeV/c |
| 1385.3±1.9 | 1086 | ⁴ HUWE | 64 HBC | $K^- p$ 1.15–1.30 GeV/c |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| 1383 ±1 | 4.5k | ¹ BAUBILLIER | 79B HBC | $K^- p$ 8.25 GeV/c |
| 1380 ±6 | 150 | ¹ SUGAHARA | 79B HBC | $\pi^- p$ 6 GeV/c |
| 1387 ±3 | 12k | ^{1,2} BARREIRO | 77B HBC | $K^- p$ 4.2 GeV/c |
| 1391 ±3 | 193 | HOLMGREN | 77 HBC | See AGUILAR 81D |
| 1383 ±2 | | ¹ BARDADIN-... | 75 HBC | $K^- p$ 14.3 GeV/c |
| 1389 ±1 | 3060 | ³ BERTHON | 74 HBC | $K^- p$ 1263–1843 MeV/c |
| 1389 ±9 | 15 | LONDON | 66 HBC | $K^- p$ 2.24 GeV/c |
| 1391.5±2.6 | 120 | ⁴ SMITH | 65 HBC | $K^- p$ 1.8 GeV/c |
| 1399.8±2.2 | 58 | ⁴ SMITH | 65 HBC | $K^- p$ 1.95 GeV/c |

| | | | | | |
|------------|-----|------------------|----|------|--------------------|
| 1392.0±6.2 | 200 | COOPER | 64 | HBC | $K^- p$ 1.45 GeV/c |
| 1382 ±3 | 93 | DAHL | 61 | DBC | $K^- d$ 0.45 GeV/c |
| 1376.0±4.4 | 224 | ⁴ ELY | 61 | HLBC | $K^- p$ 1.11 GeV/c |



$\Sigma(1385)^-$ mass (MeV)

$m_{\Sigma(1385)^-} - m_{\Sigma(1385)^+}$

| VALUE (MeV) | CL% | DOCUMENT ID | TECN | COMMENT |
|---|-----|----------------------------|------|-------------------------------------|
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| - 2 to +6 | 95 | ⁷ BORENSTEIN 74 | HBC | $K^- p$ 2.18 GeV/c |
| 7.2±1.4 | | ⁷ HABIBI 73 | HBC | $K^- p \rightarrow \Lambda \pi \pi$ |
| 6.3±2.0 | | ⁷ SIEGEL 67 | HBC | $K^- p$ 2.1 GeV/c |
| 11 ±9 | | ⁷ LONDON 66 | HBC | $K^- p$ 2.24 GeV/c |
| 9 ±6 | | LONDON 66 | HBC | $\Lambda 3\pi$ events |
| 2.0±1.5 | | ⁷ ARMENTEROS65B | HBC | $K^- p$ 0.9-1.2 GeV/c |
| 7.2±2.1 | | ⁷ SMITH 65 | HBC | $K^- p$ 1.8 GeV/c |
| 17.2±2.0 | | ⁷ SMITH 65 | HBC | $K^- p$ 1.95 GeV/c |
| 17 ±7 | | ⁷ COOPER 64 | HBC | $K^- p$ 1.45 GeV/c |
| 4.3±2.2 | | ⁷ HUWE 64 | HBC | $K^- p$ 1.22 GeV/c |
| 0.0±4.2 | | ⁷ ELY 61 | HLBC | $K^- p$ 1.11 GeV/c |

$m_{\Sigma(1385)^0} - m_{\Sigma(1385)^+}$

| VALUE (MeV) | CL% | DOCUMENT ID | TECN | COMMENT |
|---|-----|----------------------------|------|--------------------|
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| - 4 to +4 | 95 | ⁷ BORENSTEIN 74 | HBC | $K^- p$ 2.18 GeV/c |

$m_{\Sigma(1385)^-} - m_{\Sigma(1385)^0}$

| VALUE (MeV) | DOCUMENT ID | TECN | COMMENT |
|---|---------------------|--------|---|
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | |
| 2.0 ± 2.4 | ⁷ THOMAS | 73 HBC | $\pi^- p \rightarrow \Lambda \pi^- K^+$ |

$\Sigma(1385)$ WIDTHS

$\Sigma(1385)^+$ WIDTH

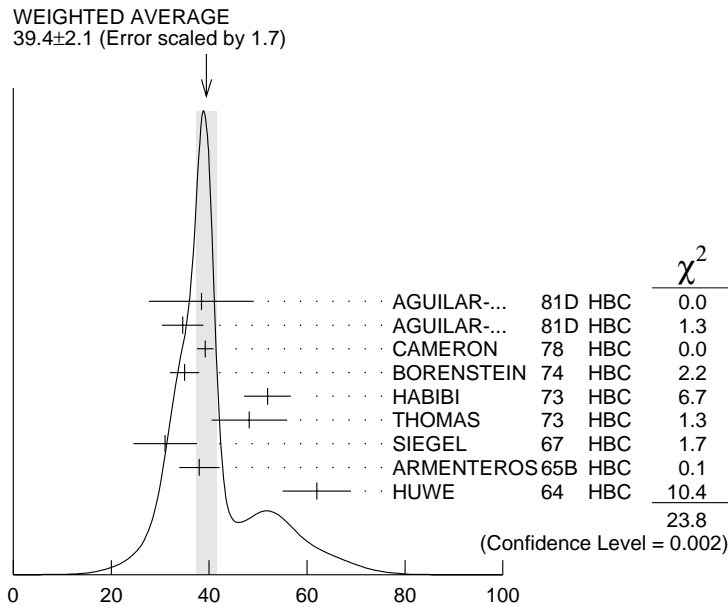
| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|------|--|---------|---|
| 35.8 ± 0.8 OUR AVERAGE | | | | |
| 37.2 ± 2.0 | 1897 | BAUBILLIER | 84 HBC | $K^- p$ 8.25 GeV/c |
| 35.1 ± 1.7 | 5256 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda \pi \pi$ 4.2 GeV/c |
| 37.5 ± 2.0 | 9361 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/c |
| 35.5 ± 1.9 | 6900 | CAMERON | 78 HBC | $K^- p$ 0.96–1.36 GeV/c |
| 34.0 ± 1.6 | 6846 | ⁸ BORENSTEIN | 74 HBC | $K^- p$ 2.18 GeV/c |
| 38.3 ± 3.2 | 2300 | ⁹ HABIBI | 73 HBC | $K^- p \rightarrow \Lambda \pi \pi$ |
| 32.5 ± 6.0 | 400 | AGUILAR-... | 72B HBC | $K^- p \rightarrow \Lambda \pi$'s |
| 36 ± 4 | 1260 | ⁹ SIEGEL | 67 HBC | $K^- p$ 2.1 GeV/c |
| 32.0 ± 4.7 | 750 | ⁹ ARMENTEROS ^{65B} | HBC | $K^- p$ 0.95–1.20 GeV/c |
| 46.5 ± 6.4 | 859 | ⁹ HUWE | 64 HBC | $K^- p$ 1.15–1.30 GeV/c |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| 40 ± 3 | 600 | BAKER | 80 HYBR | $\pi^+ p$ 7 GeV/c |
| 37 ± 2 | 750 | BAKER | 80 HYBR | $K^- p$ 7 GeV/c |
| 37 ± 2 | 7k | ¹ BAUBILLIER | 79B HBC | $K^- p$ 8.25 GeV/c |
| 30 ± 4 | 2k | CAUTIS | 79 HYBR | $\pi^+ p / K^- p$ 11.5 GeV |
| 30 ± 6 | 100 | ¹ SUGAHARA | 79B HBC | $\pi^- p$ 6 GeV/c |
| 43 ± 5 | 22k | ^{1,2} BARREIRO | 77B HBC | $K^- p$ 4.2 GeV/c |
| 34 ± 2 | 2594 | HOLMGREN | 77 HBC | See AGUILAR 81D |
| 40.0 ± 3.2 | | ¹ BARDADIN-... | 75 HBC | $K^- p$ 14.3 GeV/c |
| 48 ± 3 | 3740 | ³ BERTHON | 74 HBC | $K^- p$ 1263–1843 MeV/c |
| 33 ± 20 | 46 | ⁹ AGUILAR-... | 70B HBC | $K^- p \rightarrow \Sigma \pi$'s 4 GeV/c |
| 25 ± 32 | 62 | ⁹ BIRMINGHAM | 66 HBC | $K^- p$ 3.5 GeV/c |
| 30.3 ± 7.5 | 250 | ⁹ SMITH | 65 HBC | $K^- p$ 1.8 GeV/c |
| 33.1 ± 8.3 | 250 | ⁹ SMITH | 65 HBC | $K^- p$ 1.95 GeV/c |
| 51 ± 16 | 170 | ⁹ COOPER | 64 HBC | $K^- p$ 1.45 GeV/c |
| 48 ± 16 | 154 | ⁹ ELY | 61 HLBC | $K^- p$ 1.11 GeV/c |

$\Sigma(1385)^0$ WIDTH

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|------|--------------------------|---------|---|
| 36 ± 5 OUR AVERAGE | | | | |
| 34.8 ± 5.6 | 5722 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/c |
| 39.3 ± 10.2 | 240 | ⁹ THOMAS | 73 HBC | $\pi^- p \rightarrow \Lambda \pi^0 K^0$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| 53 ± 8 | 3100 | ¹⁰ BORENSTEIN | 74 HBC | $K^- p \rightarrow \Lambda 3\pi$ 2.18 GeV/c |
| 30 ± 9 | 106 | CURTIS | 63 OSPK | $\pi^- p$ 1.5 GeV/c |

$\Sigma(1385)^-$ WIDTH

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|-------------|-------------------------------|-------------------------|---|
| 39.4 ± 2.1 OUR AVERAGE | Error | includes scale factor of 1.7. | See the ideogram below. | |
| 38.4 ± 10.7 | 620 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda \pi \pi$ 4.2 GeV/c |
| 34.6 ± 4.2 | 3346 | AGUILAR-... | 81D HBC | $K^- p \rightarrow \Lambda 3\pi$ 4.2 GeV/c |
| 39.2 ± 1.7 | 9720 | CAMERON | 78 HBC | $K^- p$ 0.96–1.36 GeV/c |
| 35 ± 3 | 2303 | ⁸ BORENSTEIN | 74 HBC | $K^- p$ 2.18 GeV/c |
| 51.9 ± 4.8 | 1900 | ⁹ HABIBI | 73 HBC | $K^- p \rightarrow \Lambda \pi \pi$ |
| 48.2 ± 7.7 | 630 | ⁹ THOMAS | 73 HBC | $\pi^- p \rightarrow \Lambda \pi^- K^0$ |
| 31.0 ± 6.5 | 370 | ⁹ SIEGEL | 67 HBC | $K^- p$ 2.1 GeV/c |
| 38.0 ± 4.1 | 1382 | ⁹ ARMENTEROS65B | HBC | $K^- p$ 0.95–1.20 GeV/c |
| 62 ± 7 | 1086 | HUWE | 64 HBC | $K^- p$ 1.15–1.30 GeV/c |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| 44 ± 4 | 4.5k | ¹ BAUBILLIER | 79B HBC | $K^- p$ 8.25 GeV/c |
| 58 ± 4 | 150 | ¹ SUGAHARA | 79B HBC | $\pi^- p$ 6 GeV/c |
| 45 ± 5 | 12k | ^{1,2} BARREIRO | 77B HBC | $K^- p$ 4.2 GeV/c |
| 35 ± 10 | 193 | HOLMGREN | 77 HBC | See AGUILAR 81D |
| 47 ± 6 | | ¹ BARDADIN-... | 75 HBC | $K^- p$ 14.3 GeV/c |
| 40 ± 3 | 3060 | ³ BERTHON | 74 HBC | $K^- p$ 1263–1843 MeV/c |
| 29.2 ± 10.6 | 120 | ⁹ SMITH | 65 HBC | $K^- p$ 1.80 GeV/c |
| 17.1 ± 8.9 | 58 | ⁹ SMITH | 65 HBC | $K^- p$ 1.95 GeV/c |
| 88 ± 24 | 200 | ⁹ COOPER | 64 HBC | $K^- p$ 1.45 GeV/c |
| 40 | | DAHL | 61 DBC | $K^- d$ 0.45 GeV/c |
| 66 ± 18 | 224 | ⁹ ELY | 61 HLBC | $K^- p$ 1.11 GeV/c |



$\Sigma(1385)^-$ width (MeV)

$\Sigma(1385)$ POLE POSITIONS

$\Sigma(1385)^+$ REAL PART

| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>COMMENT</u> |
|--------------|--------------------|------------------------|
| 1379±1 | LICHTENBERG74 | Extrapolates HABIBI 73 |

$\Sigma(1385)^+$ -IMAGINARY PART

| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>COMMENT</u> |
|--------------|--------------------|------------------------|
| 17.5±1.5 | LICHTENBERG74 | Extrapolates HABIBI 73 |

$\Sigma(1385)^-$ REAL PART

| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>COMMENT</u> |
|--------------|--------------------|------------------------|
| 1383±1 | LICHTENBERG74 | Extrapolates HABIBI 73 |

$\Sigma(1385)^-$ -IMAGINARY PART

| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>COMMENT</u> |
|--------------|--------------------|------------------------|
| 22.5±1.5 | LICHTENBERG74 | Extrapolates HABIBI 73 |

Σ(1385) DECAY MODES

| Mode | Fraction (Γ_i/Γ) |
|----------------------------|--------------------------------|
| Γ_1 $\Lambda\pi$ | 88±2 % |
| Γ_2 $\Sigma\pi$ | 12±2 % |
| Γ_3 $\Lambda\gamma$ | |
| Γ_4 $\Sigma\gamma$ | |
| Γ_5 $N\bar{K}$ | |

The above branching fractions are our estimates, not fits or averages.

Σ(1385) BRANCHING RATIOS

| $\Gamma(\Sigma\pi)/\Gamma(\Lambda\pi)$ | | | | | Γ_2/Γ_1 |
|---|--------------------|-------------|------------|----------------|---|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> | |
| 0.135±0.011 OUR AVERAGE | | | | | |
| 0.20 ±0.06 | DIONISI | 78B | HBC | ± | $K^- p \rightarrow Y^* K \bar{K}$ |
| 0.16 ±0.03 | BERTHON | 74 | HBC | + | $K^- p$ 1.26–1.84 GeV/c |
| 0.11 ±0.02 | BERTHON | 74 | HBC | – | $K^- p$ 1.26–1.84 GeV/c |
| 0.21 ±0.05 | BORENSTEIN | 74 | HBC | + | $K^- p \rightarrow \Lambda\pi^+\pi^-, \Sigma^0\pi^+\pi^-$ |
| 0.18 ±0.04 | MAST | 73 | MPWA | ± | $K^- p \rightarrow \Lambda\pi^+\pi^-, \Sigma^0\pi^+\pi^-$ |
| 0.10 ±0.05 | THOMAS | 73 | HBC | – | $\pi^- p \rightarrow \Lambda K\pi, \Sigma K\pi$ |
| 0.16 ±0.07 | AGUILAR-... | 72B | HBC | + | $K^- p$ 3.9, 4.6 GeV/c |
| 0.13 ±0.04 | COLLEY | 71B | DBC | –0 | $K^- N$ 1.5 GeV/c |
| 0.13 ±0.04 | PAN | 69 | HBC | + | $\pi^+ p \rightarrow \Lambda K\pi, \Sigma K\pi$ |
| 0.08 ±0.06 | LONDON | 66 | HBC | + | $K^- p$ 2.24 GeV/c |
| 0.163±0.041 | ARMENTEROS65B | | HBC | ± | $K^- p$ 0.95–1.20 GeV/c |
| 0.09 ±0.04 | HUWE | 64 | HBC | ± | $K^- p$ 1.2–1.7 GeV |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | | |
| <0.04 | ALSTON | 62 | HBC | ±0 | $K^- p$ 1.15 GeV/c |
| 0.04 ±0.04 | BASTIEN | 61 | HBC | ± | |

| $\Gamma(\Lambda\gamma)/\Gamma_{\text{total}}$ | | | | | Γ_3/Γ |
|---|-------------|--------------------|-------------|----------------|-------------------|
| <u>VALUE</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | | |
| 0.17±0.17 | 1 | MEISNER | 72 | HBC | 1 event only |

| $\Gamma(\Lambda\gamma)/\Gamma(\Lambda\pi)$ | | | | | Γ_3/Γ_1 |
|---|------------|--------------------|-------------|----------------|---------------------|
| <u>VALUE</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | | |
| <0.06 | 90 | COLAS | 75 | HLBC | $K^- p$ 575–970 MeV |

$\Gamma(\Sigma\gamma)/\Gamma(\Lambda\pi)$ Γ_4/Γ_1

| VALUE | CL% | DOCUMENT ID | TECN | COMMENT |
|-------|-----|-------------|------|---------|
|-------|-----|-------------|------|---------|

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

| | | | | |
|-------|----|-------|---------|---------------------|
| <0.05 | 90 | COLAS | 75 HLBC | $K^- p$ 575–970 MeV |
|-------|----|-------|---------|---------------------|

 $(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\bar{K} \rightarrow \Sigma(1385) \rightarrow \Lambda\pi$ $(\Gamma_5\Gamma_1)^{1/2}/\Gamma$

| VALUE | DOCUMENT ID | CHG | COMMENT |
|-------|-------------|-----|---------|
|-------|-------------|-----|---------|

| | | | |
|----------------|------------------------|-------|---------------------------------|
| +0.586 ± 0.319 | ¹¹ DEVENISH | 74B 0 | Fixed- <i>t</i> dispersion rel. |
|----------------|------------------------|-------|---------------------------------|

 $\Sigma(1385)$ FOOTNOTES

- ¹ From fit to inclusive $\Lambda\pi$ spectrum.
- ² Includes data of HOLMGREN 77.
- ³ The errors are statistical only. The resolution is not unfolded.
- ⁴ The error is enlarged to Γ/\sqrt{N} . See the note on the $K^*(892)$ mass in the 1984 edition.
- ⁵ From a fit to $\Lambda\pi^0$ with the width fixed at 34 MeV.
- ⁶ From fit to inclusive $\Lambda\pi^0$ spectrum with the width fixed at 40 MeV.
- ⁷ Redundant with data in the mass Listings.
- ⁸ Results from $\Lambda\pi^+\pi^-$ and $\Lambda\pi^+\pi^-\pi^0$ combined by us.
- ⁹ The error is enlarged to $4\Gamma/\sqrt{N}$. See the note on the $K^*(892)$ mass in the 1984 edition.
- ¹⁰ Consistent with +, 0, and – widths equal.
- ¹¹ An extrapolation of the parametrized amplitude below threshold.

 $\Sigma(1385)$ REFERENCES

| | | |
|------------------------------|---|--------------------------|
| BAUBILLIER 84 ZPHY C23 213 | M. Baubillier <i>et al.</i> | (BIRM, CERN, GLAS+) |
| PDG 84 RMP 56 No. 2 Pt. II | C.G. Wohl <i>et al.</i> | (LBL, CIT, CERN) |
| AGUILAR-... 81D AFIS A77 144 | M. Aguilar-Benitez, J. Salicio | (MADR) |
| BAKER 80 NP B166 207 | P.A. Baker <i>et al.</i> | (LOIC) |
| BAUBILLIER 79B NP B148 18 | M. Baubillier <i>et al.</i> | (BIRM, CERN, GLAS+) |
| CAUTIS 79 NP B156 507 | C.V. Cautis <i>et al.</i> | (SLAC) |
| SUGAHARA 79B NP B156 237 | R. Sugahara <i>et al.</i> | (KEK, OSK, KINK) |
| CAMERON 78 NP B143 189 | W. Cameron <i>et al.</i> | (RHEL, LOIC) |
| DIONISI 78B PL 78B 154 | C. Dionisi, R. Armenteros, J. Diaz | (CERN, AMST+) |
| BARREIRO 77B NP B126 319 | F. Barreiro <i>et al.</i> | (CERN, AMST, NIJM) |
| HOLMGREN 77 NP B119 261 | S.O. Holmgren <i>et al.</i> | (CERN, AMST, NIJM) |
| BARDADIN-... 75 NP B98 418 | M. Bardadin-Otwinowska <i>et al.</i> | (SACL, EPOL+) |
| COLAS 75 NP B91 253 | J. Colas <i>et al.</i> | (ORSAY) |
| BERTHON 74 NC 21A 146 | A. Berthon <i>et al.</i> | (CDEF, RHEL, SACL+) |
| BORENSTEIN 74 PR D9 3006 | S.R. Borenstein <i>et al.</i> | (BNL, MICH) |
| DEVENISH 74B NP B81 330 | R.C.E. Devenish, C.D. Froggatt, B.R. Martin | (DESY+) |
| LICHTENBERG 74 PR D10 3865 | D.B. Lichtenberg | (IND) |
| Also 74B Private Comm. | D.B. Lichtenberg | (IND) |
| HABIBI 73 Thesis Nevis 199 | M. Habibi | (COLU) |
| Also 73 Purdue Conf. 387 | C. Baltay <i>et al.</i> | (COLU, BING) |
| MAST 73 PR D7 3212 | T.S. Mast <i>et al.</i> | (LBL) IJP |
| Also 73B PR D7 5 | T.S. Mast <i>et al.</i> | (LBL) IJP |
| THOMAS 73 NP B56 15 | D.W. Thomas <i>et al.</i> | (CMU) JP |
| AGUILAR-... 72B PR D6 29 | M. Aguilar-Benitez <i>et al.</i> | (BNL) |
| MEISNER 72 NC 12A 62 | G.W. Meisner | (UNC, LBL) |
| COLLEY 71B NP B31 61 | D.C. Colley <i>et al.</i> | (BIRM, EDIN, GLAS+) |
| AGUILAR-... 70B PRL 25 58 | M. Aguilar-Benitez <i>et al.</i> | (BNL, SYRA) |
| PAN 69 PRL 23 808 | Y.L. Pan, F.L. Forman | (PENN) I |
| SIEGEL 67 Thesis UCRL 18041 | D.M. Siegel | (LRL) |
| BIRMINGHAM 66 PR 152 1148 | M. Haque <i>et al.</i> | (BIRM, GLAS, LOIC, OXF+) |
| LONDON 66 PR 143 1034 | G.W. London <i>et al.</i> | (BNL, SYRA) J |
| ARMENTEROS 65B PL 19 75 | R. Armenteros <i>et al.</i> | (CERN, HEID, SACL) |
| SMITH 65 Thesis UCLA | L.T. Smith | (UCLA) |

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|---------|----|-------------------|--|--------------|
| COOPER | 64 | PL 8 365 | W.A. Cooper <i>et al.</i> | (CERN, AMST) |
| HUWE | 64 | Thesis UCRL 11291 | D.O. Huwe | (LRL) JP |
| Also | 69 | PR 180 1824 | D.O. Huwe | (LRL) |
| CURTIS | 63 | PR 132 1771 | L.J. Curtis <i>et al.</i> | (MICH) J |
| ALSTON | 62 | CERN Conf. 311 | M.H. Alston <i>et al.</i> | (LRL) |
| BASTIEN | 61 | PRL 6 702 | P.L. Bastien, M. Ferro-Luzzi, A.H. Rosenfeld | (LRL) |
| DAHL | 61 | PRL 6 142 | O.I. Dahl <i>et al.</i> | (LRL) |
| ELY | 61 | PRL 7 461 | R.P. Ely <i>et al.</i> | (LRL) J |
| ALSTON | 60 | PRL 5 520 | M.H. Alston <i>et al.</i> | (LRL) I |
