# $\Sigma(2455)$ Bumps

$I(J^P) = 1(?^?)$ Status: **

OMITTED FROM SUMMARY TABLE

There is also some slight evidence for $Y^*$ states in this mass region from the reaction $\gamma p \rightarrow K^+ X$ — see GREENBERG 68.

## $\Sigma(2455)$ MASS

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **≈ 2455 OUR ESTIMATE** | | | | |
| 2455±10 | ABRAMS | 70 | CNTR | $K^-p$, $K^-d$ total |
| 2455± 7 | BUGG | 68 | CNTR | $K^-p$, $K^-d$ total |

## $\Sigma(2455)$ WIDTH

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| 140 | ABRAMS | 70 | CNTR | $K^-p$, $K^-d$ total |
| 100±20 | BUGG | 68 | CNTR | |

## $\Sigma(2455)$ DECAY MODES

| | Mode |
|---|---|
| $\Gamma_1$ | $N\overline{K}$ |

## $\Sigma(2455)$ BRANCHING RATIOS

| $(J+\frac{1}{2})\times\Gamma(N\overline{K})/\Gamma_{total}$ VALUE | DOCUMENT ID | | TECN | $\Gamma_1/\Gamma$ COMMENT |
|---|---|---|---|---|
| 0.39 | ABRAMS | 70 | CNTR | $K^-p$, $K^-d$ total |
| 0.05±0.05 | [1] BRICMAN | 70 | CNTR | Total, charge exchange |
| 0.3 | BUGG | 68 | CNTR | |

## $\Sigma(2455)$ FOOTNOTES

[1] Fit of total cross section given by BRICMAN 70 is poor in this region.

## $\Sigma(2455)$ REFERENCES


| | | | | |
|---|---|---|---|---|
| ABRAMS | 70 | PR D1 1917 | +Cool, Giacomelli, Kycia, Leontic, Li+ | (BNL) I |
| Also | 67E | PRL 19 678 | Abrams, Cool, Giacomelli, Kycia, Leontic+ | (BNL) |
| BRICMAN | 70 | PL 31B 152 | +Ferro-Luzzi, Perreau+ | (CERN, CAEN, SACL) |
| BUGG | 68 | PR 168 1466 | +Gilmore, Knight+ | (RHEL, BIRM, CAVE) I |
| GREENBERG | 68 | PRL 20 221 | +Hughes, Lu, Minehart+ | (YALE) |