# $\Sigma(2455)$ 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 $\gamma p \to K^+ X$ — see GREENBERG 68.

## $\Sigma(2455)$ MASS

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| ≈ **2455 OUR ESTIMATE** | | | | |
| $2455 \pm 10$ | ABRAMS | 70 | CNTR | $K^- p$, $K^- d$ total |
| $2455 \pm\ 7$ | 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 |
| $100 \pm 20$ | BUGG | 68 | CNTR | |

## $\Sigma(2455)$ DECAY MODES

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

## $\Sigma(2455)$ BRANCHING RATIOS

$(J+\frac{1}{2}) \times \Gamma(N\overline{K})/\Gamma_{\text{total}}$                                                           $\Gamma_1/\Gamma$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| 0.39 | ABRAMS | 70 | CNTR | $K^- p$, $K^- d$ total |
| $0.05 \pm 0.05$ | [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 | R.J. Abrams *et al.* | (BNL) I |
|---|---|---|---|---|
| Also | | PRL 19 678 | R.J. Abrams *et al.* | (BNL) |
| BRICMAN | 70 | PL 31B 152 | C. Bricman *et al.* | (CERN, CAEN, SACL) |
| BUGG | 68 | PR 168 1466 | D.V. Bugg *et al.* | (RHEL, BIRM, CAVE) I |
| GREENBERG | 68 | PRL 20 221 | J.S. Greenberg *et al.* | (YALE) |