

# Σ(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.

## Σ(2455) MASS

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

## Σ(2455) WIDTH

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

## Σ(2455) DECAY MODES

| Mode                      |
|---------------------------|
| $\Gamma_1 \quad N\bar{K}$ |

## Σ(2455) BRANCHING RATIOS

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

## Σ(2455) FOOTNOTES

<sup>1</sup> Fit of total cross section given by BRICMAN 70 is poor in this region.

## Σ(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)               |