

**$\Sigma(2455)$  Bumps**

$$I(J^P) = 1(?^?) \quad \text{Status: } **$$

## 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**

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

 **$\Sigma(2455)$  WIDTH**

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

 **$\Sigma(2455)$  DECAY MODES**

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

 **$\Sigma(2455)$  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   |                     |
| $0.05 \pm 0.05$   | <sup>1</sup> BRICMAN | 70          | CNTR Total, charge exchange |                     |
| 0.3   | BUGG                 | 68          | CNTR                        |                     |

 **$\Sigma(2455)$  FOOTNOTES**

<sup>1</sup> 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 <i>et al.</i>    | (BNL) I              |
| Also      |    | PRL 19 678  | R.J. Abrams <i>et al.</i>    | (BNL)                |
| BRICMAN   | 70 | PL 31B 152  | C. Bricman <i>et al.</i>     | (CERN, CAEN, SACL)   |
| BUGG      | 68 | PR 168 1466 | D.V. Bugg <i>et al.</i>      | (RHEL, BIRM, CAVE) I |
| GREENBERG | 68 | PRL 20 221  | J.S. Greenberg <i>et al.</i> | (YALE)               |