

$\Sigma(2455)$ 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	
Γ_1	$N\bar{K}$

$\Sigma(2455)$ BRANCHING RATIOS				
$(J+\frac{1}{2}) \times \Gamma(N\bar{K})/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	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	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)