

$\Xi(2500)$
 $I(J^P) = \frac{1}{2}(?)$ Status: *
 J, P need confirmation.

OMITTED FROM SUMMARY TABLE

The ALITTI 69 peak might be instead the $\Xi(2370)$ or might be neither the $\Xi(2370)$ nor the $\Xi(2500)$.

NODE=B099

NODE=B099

NODE=B099M

NODE=B099M
 → UNCHECKED ←

NODE=B099W

NODE=B099W

NODE=B099215;NODE=B099

DESIG=1

DESIG=2

DESIG=3

DESIG=6

DESIG=4

DESIG=5

NODE=B099220

NODE=B099R1
 NODE=B099R1

NODE=B099R2
 NODE=B099R2

NODE=B099R3
 NODE=B099R3

NODE=B099R4
 NODE=B099R4

NODE=B099R6
 NODE=B099R6

NODE=B099R5
 NODE=B099R5

NODE=B099

REFID=32525
 REFID=32513
 REFID=32499

 $\Xi(2500)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
≈ 2500 OUR ESTIMATE					
2505 ± 10		JENKINS	83	MPS	— $K^- p \rightarrow K^+ \text{MM}$
2430 ± 20	30	ALITTI	69	HBC	— $K^- p$ 4.6–5 GeV/c
2500 ± 10	45	BARTSCH	69	HBC	—0 $K^- p$ 10 GeV/c

 $\Xi(2500)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	CHG
150^{+60}_{-40}	ALITTI	69	HBC
59 ± 27	BARTSCH	69	HBC

 $\Xi(2500)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi \pi$	
$\Gamma_2 \quad \Lambda \bar{K}$	
$\Gamma_3 \quad \Sigma \bar{K}$	
$\Gamma_4 \quad \Xi \pi \pi$	seen
$\Gamma_5 \quad \Xi(1530) \pi$	
$\Gamma_6 \quad \Lambda \bar{K} \pi + \Sigma \bar{K} \pi$	seen

 $\Xi(2500)$ BRANCHING RATIOS
 $\Gamma(\Xi \pi) / [\Gamma(\Xi \pi) + \Gamma(\Lambda \bar{K}) + \Gamma(\Sigma \bar{K}) + \Gamma(\Xi(1530) \pi)] \quad \Gamma_1 / (\Gamma_1 + \Gamma_2 + \Gamma_3 + \Gamma_5)$

VALUE	DOCUMENT ID	TECN	COMMENT
<0.5	ALITTI	69	HBC 1 standard dev. limit

NODE=B099R1
 NODE=B099R1

 $\Gamma(\Lambda \bar{K}) / [\Gamma(\Xi \pi) + \Gamma(\Lambda \bar{K}) + \Gamma(\Sigma \bar{K}) + \Gamma(\Xi(1530) \pi)] \quad \Gamma_2 / (\Gamma_1 + \Gamma_2 + \Gamma_3 + \Gamma_5)$

VALUE	DOCUMENT ID	TECN	CHG
0.5 ± 0.2	ALITTI	69	HBC —

NODE=B099R2
 NODE=B099R2

 $\Gamma(\Sigma \bar{K}) / [\Gamma(\Xi \pi) + \Gamma(\Lambda \bar{K}) + \Gamma(\Sigma \bar{K}) + \Gamma(\Xi(1530) \pi)] \quad \Gamma_3 / (\Gamma_1 + \Gamma_2 + \Gamma_3 + \Gamma_5)$

VALUE	DOCUMENT ID	TECN	CHG
0.5 ± 0.2	ALITTI	69	HBC —

NODE=B099R3
 NODE=B099R3

 $\Gamma(\Xi(1530) \pi) / [\Gamma(\Xi \pi) + \Gamma(\Lambda \bar{K}) + \Gamma(\Sigma \bar{K}) + \Gamma(\Xi(1530) \pi)] \quad \Gamma_5 / (\Gamma_1 + \Gamma_2 + \Gamma_3 + \Gamma_5)$

VALUE	DOCUMENT ID	TECN	COMMENT
<0.2	ALITTI	69	HBC 1 standard dev. limit

NODE=B099R4
 NODE=B099R4

 $\Gamma(\Xi \pi \pi) / \Gamma_{\text{total}} \quad \Gamma_4 / \Gamma$

VALUE	DOCUMENT ID	TECN	CHG
seen	BARTSCH	69	HBC —0

NODE=B099R6
 NODE=B099R6

 $[\Gamma(\Lambda \bar{K} \pi) + \Gamma(\Sigma \bar{K} \pi)] / \Gamma_{\text{total}} \quad \Gamma_6 / \Gamma$

VALUE	DOCUMENT ID	TECN	CHG
seen	BARTSCH	69	HBC —0

NODE=B099R5
 NODE=B099R5

 $\Xi(2500)$ REFERENCES

JENKINS	83	PRL 51 951	C.M. Jenkins <i>et al.</i>	(FSU, BRAN, LBL+)
ALITTI	69	PRL 22 79	J. Alitti <i>et al.</i>	(BNL, SYRA) I
BARTSCH	69	PL 28B 439	J. Bartsch <i>et al.</i>	(AACH, BERL, CERN+)