$\Xi(2500)$

$I(J^P) = \frac{1}{2}(?^?)$ 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 $\Xi(2500)$.

$\Xi(2500)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
≈ 2500 OUR ESTIMATE						
2505±10		JENKINS	83	MPS	–	$K^- p \to K^+$ 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	−0

$\Xi(2500)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Xi\pi$	
Γ_2	$\Lambda\overline{K}$	
Γ_3	$\Sigma\overline{K}$	
Γ_4	$\Xi\pi\pi$	seen
Γ_5	$\Xi(1530)\pi$	
Γ_6	$\Lambda\overline{K}\pi + \Sigma\overline{K}\pi$	seen

$\Xi(2500)$ BRANCHING RATIOS

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

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

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

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

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

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

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

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

$\Gamma(\Xi\pi\pi)/\Gamma_{total}$ Γ_4/Γ

VALUE	DOCUMENT ID		TECN	CHG
seen	BARTSCH	69	HBC	-0

$[\Gamma(\Lambda\overline{K}\pi)+\Gamma(\Sigma\overline{K}\pi)]/\Gamma_{total}$ Γ_6/Γ

VALUE	DOCUMENT ID		TECN	CHG
seen	BARTSCH	69	HBC	-0

$\Xi(2500)$ REFERENCES

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