$\Xi(2500)$

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

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

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

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

VALUE	*DOCUMENT ID*		*TECN*	*CHG*
0.5 ± 0.2	ALITTI	69	HBC	$-$

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

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+)