NODE=B118

$\Sigma(3170)$ Bumps

$I(J^P) = 1(?^?)$ Status: ∗

OMITTED FROM SUMMARY TABLE

NODE=B118

Seen by AMIRZADEH 79 as a narrow 6.5-standard-deviation enhancement in the reaction $K^- p \to Y^{*+} \pi^-$ using data from independent high statistics bubble chamber experiments at 8.25 and 6.5 GeV/c. The dominant decay modes are multibody, multistrange final states and the production is via isospin-3/2 baryon exchange. Isospin 1 is favored.

Not seen in a $K^- p$ experiment in LASS at 11 GeV/c (ASTON 85B).

Σ(3170) MASS (PRODUCTION EXPERIMENTS)

NODE=B118M

NODE=B118M

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
≈ 3170 OUR ESTIMATE					
3170±5	35	AMIRZADEH	79	HBC	$K^- p \to Y^{*+} \pi^-$

→ UNCHECKED ←

Σ(3170) WIDTH (PRODUCTION EXPERIMENTS)

NODE=B118W

NODE=B118W

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
<20	35	[1] AMIRZADEH	79	HBC	$K^- p \to Y^{*+} \pi^-$

Σ(3170) DECAY MODES (PRODUCTION EXPERIMENTS)

NODE=B118215;NODE=B118

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$\Lambda K \overline{K} \pi$'s	seen	DESIG=1
Γ_2	$\Sigma K \overline{K} \pi$'s	seen	DESIG=2
Γ_3	$\Xi K \pi$'s	seen	DESIG=3

Σ(3170) BRANCHING RATIOS (PRODUCTION EXPERIMENTS)

NODE=B118220

$\Gamma(\Lambda K \overline{K} \pi\text{'s})/\Gamma_{\text{total}}$ Γ_1/Γ

NODE=B118R1
NODE=B118R1

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AMIRZADEH	79	HBC	$K^- p \to Y^{*+} \pi^-$

$\Gamma(\Sigma K \overline{K} \pi\text{'s})/\Gamma_{\text{total}}$ Γ_2/Γ

NODE=B118R2
NODE=B118R2

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AMIRZADEH	79	HBC	$K^- p \to Y^{*+} \pi^-$

$\Gamma(\Xi K \pi\text{'s})/\Gamma_{\text{total}}$ Γ_3/Γ

NODE=B118R3
NODE=B118R3

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AMIRZADEH	79	HBC	$K^- p \to Y^{*+} \pi^-$

Σ(3170) FOOTNOTES (PRODUCTION EXPERIMENTS)

NODE=B118

[1] Observed width consistent with experimental resolution.

NODE=B118;LINKAGE=A

Σ(3170) REFERENCES (PRODUCTION EXPERIMENTS)

NODE=B118

ASTON	85B	PR D32 2270	D. Aston *et al.*	(SLAC, CARL, CNRC, CINC)	REFID=12073
AMIRZADEH	79	PL 89B 125	J. Amirzadeh *et al.*	(BIRM, CERN, GLAS+) I	REFID=32460
Also		Toronto Conf. 263	J.B. Kinson *et al.*	(BIRM, CERN, GLAS+) I	REFID=32564