

$$\Sigma(1940) \ 3/2^+$$

$$I(J^P) = 1(\frac{3}{2}^+) \text{ Status: } *$$

NODE=B168

OMITTED FROM SUMMARY TABLE

 **$\Sigma(1940)$  MASS**

NODE=B168M

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>1920 to 1960 (<math>\approx</math> 1940) OUR ESTIMATE</b>			
1941 $\pm$ 18	ZHANG	13A	DPWA $\bar{K}N$ multichannel
1925 $\pm$ 200	VANHORN	75	DPWA $K^- p \rightarrow \Lambda \pi^0$

NODE=B168M

→ UNCHECKED ←

 **$\Sigma(1940)$  WIDTH**

NODE=B168W

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>100 to 400 (<math>\approx</math> 250) OUR ESTIMATE</b>			
400 $\pm$ 49	ZHANG	13A	DPWA $\bar{K}N$ multichannel
65 $^{+50}_{-20}$	VANHORN	75	DPWA $K^- p \rightarrow \Lambda \pi^0$

NODE=B168W

→ UNCHECKED ←

 **$\Sigma(1940)$  DECAY MODES**

NODE=B168215;NODE=B168

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $N\bar{K}$	(13.0 $\pm$ 2.0) %
$\Gamma_2$ $\Sigma\pi$	( 4.0 $\pm$ 2.0) %
$\Gamma_3$ $\Sigma(1385)\pi$ , <i>P</i> -wave	(22 $\pm$ 7 ) %
$\Gamma_4$ $\Lambda(1520)\pi$ , <i>S</i> -wave	( 5.0 $\pm$ 2.0) %

DESIG=1

DESIG=2

DESIG=3

DESIG=4

 **$\Sigma(1940)$  BRANCHING RATIOS**

NODE=B168220

$\Gamma(N\bar{K})/\Gamma_{\text{total}}$	VALUE	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
	<b>0.13 <math>\pm</math> 0.02</b>	ZHANG	13A	DPWA $\bar{K}N$ multichannel	
$\Gamma(\Sigma\pi)/\Gamma_{\text{total}}$	VALUE	DOCUMENT ID	TECN	COMMENT	$\Gamma_2/\Gamma$
	<b>0.04 <math>\pm</math> 0.02</b>	ZHANG	13A	DPWA $\bar{K}N$ multichannel	
$\Gamma(\Sigma(1385)\pi, P\text{-wave})/\Gamma_{\text{total}}$	VALUE	DOCUMENT ID	TECN	COMMENT	$\Gamma_3/\Gamma$
	<b>0.22 <math>\pm</math> 0.07</b>	ZHANG	13A	DPWA $\bar{K}N$ multichannel	
$\Gamma(\Lambda(1520)\pi, S\text{-wave})/\Gamma_{\text{total}}$	VALUE	DOCUMENT ID	TECN	COMMENT	$\Gamma_4/\Gamma$
	<b>0.05 <math>\pm</math> 0.02</b>	ZHANG	13A	DPWA $\bar{K}N$ multichannel	

NODE=B168R01  
NODE=B168R01NODE=B168R02  
NODE=B168R02NODE=B168R03  
NODE=B168R03NODE=B168R04  
NODE=B168R04 **$\Sigma(1940)$  REFERENCES**

NODE=B168

ZHANG	13A	PR C88 035205	H. Zhang <i>et al.</i>	(KSU)
VANHORN	75	NP B87 145	A.J. van Horn	(LBL)

REFID=55441  
REFID=32093