

$\Sigma(1940) 3/2^+$ $I(J^P) = 1(\frac{3}{2}^+)$ Status: *

OMITTED FROM SUMMARY TABLE

 $\Sigma(1940)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
1920 to 1960 (≈ 1940) OUR ESTIMATE			
1941 \pm 18	ZHANG	13A	DPWA $\bar{K}N$ multichannel
1925 \pm 20	VANHORN	75	DPWA $K^- p \rightarrow \Lambda \pi^0$

 $\Sigma(1940)$ WIDTH

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

 $\Sigma(1940)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $N\bar{K}$	(13.0 \pm 2.0) %
Γ_2 $\Sigma \pi$	(4.0 \pm 2.0) %
Γ_3 $\Sigma(1385)\pi$, P -wave	(22 \pm 7) %
Γ_4 $\Lambda(1520)\pi$, S -wave	(5.0 \pm 2.0) %

 $\Sigma(1940)$ BRANCHING RATIOS

$\Gamma(N\bar{K})/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.13 \pm 0.02	ZHANG	13A	DPWA $\bar{K}N$ multichannel
$\Gamma(\Sigma \pi)/\Gamma_{\text{total}}$	Γ_2/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.04 \pm 0.02	ZHANG	13A	DPWA $\bar{K}N$ multichannel
$\Gamma(\Sigma(1385)\pi, P\text{-wave})/\Gamma_{\text{total}}$	Γ_3/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.22 \pm 0.07	ZHANG	13A	DPWA $\bar{K}N$ multichannel
$\Gamma(\Lambda(1520)\pi, S\text{-wave})/\Gamma_{\text{total}}$	Γ_4/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.05 \pm 0.02	ZHANG	13A	DPWA $\bar{K}N$ multichannel

$\Sigma(1940)$ REFERENCES

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