

$\Lambda(2000) \ 1/2^-$ $I(J^P) = 0(\frac{1}{2}^-)$ Status: *

OMITTED FROM SUMMARY TABLE

BARBARO-GALTIERI 70 (in $\Sigma\pi$) and BRANDSTETTER 72 (in $\Lambda\omega$) proposed a state at about this mass. Those analyses are considered to be obsolete, see NAKKASYAN 75 and PDG 18.

NODE=B089

NODE=B089

 $\Lambda(2000)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
≈ 2000 OUR ESTIMATE			
2020 $\pm$ 16	ZHANG	13A	DPWA Multichannel
2030 $\pm$ 30	CAMERON	78B	DPWA $K^- p \rightarrow N\bar{K}^*$

NODE=B089M

NODE=B089M
→ UNCHECKED ←

 $\Lambda(2000)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
255 $\pm$ 63	ZHANG	13A	DPWA Multichannel
125 $\pm$ 25	CAMERON	78B	DPWA $K^- p \rightarrow N\bar{K}^*$

NODE=B089W

NODE=B089W

 $\Lambda(2000)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \ N\bar{K}$	(27 $\pm$ 6) %
$\Gamma_2 \ \Sigma\pi$	
$\Gamma_3 \ \Lambda\eta$	(16 $\pm$ 7) %
$\Gamma_4 \ N\bar{K}^*(892), S=1/2, S\text{-wave}$	
$\Gamma_5 \ N\bar{K}^*(892), S=3/2, D\text{-wave}$	

NODE=B089215;NODE=B089

DESIG=1

DESIG=2

DESIG=6

DESIG=4

DESIG=5

 $\Lambda(2000)$ BRANCHING RATIOS

See "Sign conventions for resonance couplings" in the Note on Λ and Σ Resonances.

NODE=B089220

NODE=B089220

$\Gamma(N\bar{K})/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.27±0.06	ZHANG	13A	DPWA	Multichannel	

NODE=B089R01
NODE=B089R01

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\bar{K} \rightarrow \Lambda(2000) \rightarrow \Sigma\pi$	$(\Gamma_1\Gamma_2)^{1/2}/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
-0.07 ± 0.03	ZHANG	13A	DPWA Multichannel

NODE=B089R1
NODE=B089R1

$\Gamma(\Lambda\eta)/\Gamma_{\text{total}}$	Γ_3/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.16±0.07	ZHANG	13A	DPWA Multichannel

NODE=B089R02
NODE=B089R02

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\bar{K} \rightarrow \Lambda(2000) \rightarrow N\bar{K}^*(892), S=1/2, S\text{-wave}$	$(\Gamma_1\Gamma_4)^{1/2}/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
-0.12 ± 0.03	¹ CAMERON	78B	DPWA $K^-p \rightarrow N\bar{K}^*$

NODE=B089R3
NODE=B089R3

¹ The published sign has been changed to be in accord with the baryon-first convention.

NODE=B089;LINKAGE=B

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\bar{K} \rightarrow \Lambda(2000) \rightarrow N\bar{K}^*(892), S=3/2, D\text{-wave}$				$(\Gamma_1\Gamma_5)^{1/2}/\Gamma$
VALUE	DOCUMENT ID	TECN	COMMENT	
$+0.34 \pm 0.05$	ZHANG	13A	DPWA	Multichannel
$+0.09 \pm 0.03$	CAMERON	78B	DPWA	$K^- p \rightarrow N\bar{K}^*$

NODE=B089R4
NODE=B089R4

 $\Lambda(2000)$ REFERENCES

NODE=B089

PDG	18	PR D98 030001	M. Tanabashi <i>et al.</i>	(PDG Collab.)
ZHANG	13A	PR C88 035205	H. Zhang <i>et al.</i>	(KSU)
CAMERON	78B	NP B146 327	W. Cameron <i>et al.</i>	(RHEL, LOIC) IJP
NAKKASYAN	75	NP B93 85	A. Nakkasyan	(CERN) IJP
BRANDSTETTER...	72	NP B39 13	A.A. Brandstetter <i>et al.</i>	(RHEL, CDEF+) IJP
BARBARO-...	70	Duke Conf. 173	A. Barbaro-Galtieri	(LRL) IJP
Hyperon Resonances, 1970				

REFID=59304
REFID=55441
REFID=31838
REFID=31931
REFID=31943
REFID=31777