

$\Lambda(2325) D_{03}$ $I(J^P) = 0(\frac{3}{2}^-)$ Status: *

OMITTED FROM SUMMARY TABLE

BACCARI 77 finds this state with either $J^P = 3/2^-$ or $3/2^+$ in a energy-dependent partial-wave analyses of $K^- p \rightarrow \Lambda\omega$ from 2070 to 2436 MeV. A subsequent semi-energy-independent analysis from threshold to 2436 MeV selects $3/2^-$. DEBELLEFON 78 (same group) also sees this state in an energy-dependent partial-wave analysis of $K^- p \rightarrow \bar{K}N$ data, and finds $J^P = 3/2^-$ or $3/2^+$. They again prefer $J^P = 3/2^-$, but only on the basis of model-dependent considerations.

 $\Lambda(2325)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
≈ 2325 OUR ESTIMATE			
2342 ± 30	DEBELLEFON 78	DPWA	$\bar{K}N \rightarrow \bar{K}N$
2327 ± 20	BACCARI 77	DPWA	$K^- p \rightarrow \Lambda\omega$

 $\Lambda(2325)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
177 ± 40	DEBELLEFON 78	DPWA	$\bar{K}N \rightarrow \bar{K}N$
160 ± 40	BACCARI 77	IPWA	$K^- p \rightarrow \Lambda\omega$

 $\Lambda(2325)$ DECAY MODES

Mode
$\Gamma_1 \quad N\bar{K}$
$\Gamma_2 \quad \Lambda\omega$

 $\Lambda(2325)$ BRANCHING RATIOS

$\Gamma(N\bar{K})/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
0.19 ± 0.06	DEBELLEFON 78	DPWA	$\bar{K}N \rightarrow \bar{K}N$	

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\bar{K} \rightarrow \Lambda(2325) \rightarrow \Lambda\omega$	DOCUMENT ID	TECN	COMMENT	$(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$
0.06 ± 0.02	¹ BACCARI 77	IPWA	DS_{33} wave	
0.05 ± 0.02	¹ BACCARI 77	DPWA	DD_{13} wave	
0.08 ± 0.03	¹ BACCARI 77	DPWA	DD_{33} wave	

 $\Lambda(2325)$ FOOTNOTES

¹ Note that the three BACCARI 77 entries are for three different waves.

$\Lambda(2325)$ REFERENCES

DEBELLEFON	78	NC 42A 403	De Bellefon, Berthon, Billoir+	(CDEF, SACL) IJP
BACCARI	77	NC 41A 96	+Poulard, Revel, Tallini+	(SACL, CDEF) IJP
