$\Lambda(2325)$ 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 $K^- p \rightarrow \overline{K} N$ 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	$\overline{K} N \rightarrow \overline{K} N$
2327±20	BACCARI 77	DPWA	$K^- p \rightarrow \Lambda\omega$

$\Lambda(2325)$ WIDTH

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

$\Lambda(2325)$ DECAY MODES

	Mode
Γ_1	$N\overline{K}$
Γ_2	$\Lambda\omega$

$\Lambda(2325)$ BRANCHING RATIOS

$\Gamma(N\overline{K})/\Gamma_{total}$ — **Γ_1/Γ**

VALUE	DOCUMENT ID	TECN	COMMENT
0.19±0.06	DEBELLEFON 78	DPWA	$\overline{K} N \rightarrow \overline{K} N$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\overline{K} \rightarrow \Lambda(2325) \rightarrow \Lambda\omega$ — **$(\Gamma_1\Gamma_2)^{1/2}/\Gamma$**

VALUE	DOCUMENT ID	TECN	COMMENT
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.

Λ(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