

$\Sigma(2080) P_{13}$  $I(J^P) = 1(\frac{3}{2}^+)$  Status: \*\*

OMITTED FROM SUMMARY TABLE

Suggested by some but not all partial-wave analyses across this region.

 $\Sigma(2080)$  MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b><math>\approx 2080</math> OUR ESTIMATE</b>			
$2091 \pm 7$	<sup>1</sup> CORDEN	76	DPWA $K^- n \rightarrow \Lambda \pi^-$
2070 to 2120	DEBELLEFON	76	IPWA $K^- p \rightarrow \Lambda \pi^0$
$2120 \pm 40$	BAILLON	75	IPWA $\bar{K} N \rightarrow \Lambda \pi$ (sol. 1)
$2140 \pm 40$	BAILLON	75	IPWA $\bar{K} N \rightarrow \Lambda \pi$ (sol. 2)
$2082 \pm 4$	COX	70	DPWA See CORDEN 76
$2070 \pm 30$	LITCHFIELD	70	DPWA $K^- N \rightarrow \Lambda \pi$

 $\Sigma(2080)$  WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$186 \pm 48$	<sup>1</sup> CORDEN	76	DPWA $K^- n \rightarrow \Lambda \pi^-$
100	DEBELLEFON	76	IPWA $K^- p \rightarrow \Lambda \pi^0$
$240 \pm 50$	BAILLON	75	IPWA $\bar{K} N \rightarrow \Lambda \pi$ (sol. 1)
$200 \pm 50$	BAILLON	75	IPWA $\bar{K} N \rightarrow \Lambda \pi$ (sol. 2)
$87 \pm 20$	COX	70	DPWA See CORDEN 76
$250 \pm 40$	LITCHFIELD	70	DPWA $K^- N \rightarrow \Lambda \pi$

 $\Sigma(2080)$  DECAY MODES

Mode
$\Gamma_1$ $N \bar{K}$
$\Gamma_2$ $\Lambda \pi$

 $\Sigma(2080)$  BRANCHING RATIOSSee "Sign conventions for resonance couplings" in the Note on  $\Lambda$  and  $\Sigma$  Resonances.

$(\Gamma_i \Gamma_f)^{1/2} / \Gamma_{\text{total}}$ in $N \bar{K} \rightarrow \Sigma(2080) \rightarrow \Lambda \pi$	$(\Gamma_1 \Gamma_2)^{1/2} / \Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
$-0.10 \pm 0.03$	<sup>1</sup> CORDEN	76	DPWA $K^- n \rightarrow \Lambda \pi^-$
$-0.10$	DEBELLEFON	76	IPWA $K^- p \rightarrow \Lambda \pi^0$
$-0.13 \pm 0.04$	BAILLON	75	IPWA $\bar{K} N \rightarrow \Lambda \pi$ (sol. 1 and 2)
$-0.16 \pm 0.03$	COX	70	DPWA See CORDEN 76
$-0.09 \pm 0.03$	LITCHFIELD	70	DPWA $K^- N \rightarrow \Lambda \pi$

## $\Sigma(2080)$ FOOTNOTES

<sup>1</sup> Preferred solution 3; see CORDEN 76 for other possibilities, including a  $D_{15}$  at this mass.

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## $\Sigma(2080)$ REFERENCES

CORDEN	76	NP B104 382	M.J. Corden <i>et al.</i>	(BIRM) IJP
DEBELLEFON	76	NP B109 129	A. de Bellefon, A. Berthon	(CDEF) IJP
	Also	NP B90 1	A. de Bellefon <i>et al.</i>	(CDEF, SACL) IJP
BAILLON	75	NP B94 39	P.H. Baillon, P.J. Litchfield	(CERN, RHEL) IJP
COX	70	NP B19 61	G.F. Cox <i>et al.</i>	(BIRM, EDIN, GLAS, LOIC) IJP
LITCHFIELD	70	NP B22 269	P.J. Litchfield	(RHEL) IJP

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