$\Sigma(2110)\ 1/2^-$

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

OMITTED FROM SUMMARY TABLE
was $\Sigma(2160)$

$\Sigma(2110)$ POLE POSITION

REAL PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
2158±25	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

−2×IMAGINARY PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{300^{+300}_{-\ 60}}$	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Sigma(2110)$ POLE RESIDUES

Normalized residue in $N\overline{K} \to \Sigma(2110) \to N\overline{K}$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.29±0.08	**−20 ± 35**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Sigma\pi$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.14±0.04	**−5 ± 35**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Lambda\pi$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.39±0.08	**85 ± 25**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Xi K$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.05±0.02	**−85 ± 35**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Lambda(1520)\pi$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.025±0.015		SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Sigma(1385)\pi$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.03±0.02		SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to \Delta\overline{K}$

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.035±0.02	**−30 ± 40**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to N\overline{K}^*(892)$, S-wave

MODULUS	*PHASE (°)*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.09±0.03	**−40 ± 50**	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

Normalized residue in $N\overline{K} \to \Sigma(2110) \to N\overline{K}^*(892)$, D-wave

MODULUS	PHASE (°)	DOCUMENT ID		TECN	COMMENT
0.04±0.03		SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Sigma(2110)$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2110±50 OUR AVERAGE Error includes scale factor of 3.4.				
2165±23	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel
2060±20	ZHANG	13A	DPWA	$\overline{K}N$ multichannel

$\Sigma(2110)$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
310^{+120}_{-50} OUR AVERAGE				
320^{+300}_{-60}	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel
300±134	ZHANG	13A	DPWA	$\overline{K}N$ multichannel

$\Sigma(2110)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$N\overline{K}$	(29 ± 7) %
Γ_2	$\Sigma\pi$	(7.0± 2.0) %
Γ_3	$\Lambda\pi$	(54 ±12) %
Γ_4	$N\overline{K}^*(892)$, S-wave	(3.0± 1.0) %
Γ_5	$N\overline{K}^*(892)$, D-wave	

$\Sigma(2110)$ BRANCHING RATIOS

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.29±0.07	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Gamma(\Sigma\pi)/\Gamma_{total}$ Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.07±0.02	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Gamma(\Lambda\pi)/\Gamma_{total}$ Γ_3/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.54±0.12	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Gamma(N\overline{K}^*(892), S\text{-wave})/\Gamma_{total}$ Γ_4/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.03±0.01	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

$\Gamma(N\overline{K}^*(892), D\text{-wave})/\Gamma_{total}$ **Γ_5/Γ**

VALUE	*DOCUMENT ID*	*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •			
~ 0.01	SARANTSEV 19	DPWA	$\overline{K}N$ multichannel

$\Sigma(2110)$ REFERENCES

SARANTSEV	19	EPJ A55 180	A.V. Sarantsev *et al.*	(BONN, PNPI)
ZHANG	13A	PR C88 035205	H. Zhang *et al.*	(KSU)