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

$I(J^P) = 1(\frac{1}{2}^-)$ 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
300^{+300}_{-60}	SARANTSEV	19	DPWA	$\overline{K}N$ multichannel

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$\Sigma(2110)$ 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	$N\overline{K}$	$(29 \pm 7\ )\ \%$
Γ_2	$\Sigma\pi$	$(\ 7.0\pm 2.0)\ \%$
Γ_3	$\Lambda\pi$	$(54 \pm12\ )\ \%$
Γ_4	$N\overline{K}{}^*(892)$, *S*-wave	$(\ 3.0\pm 1.0)\ \%$
Γ_5	$N\overline{K}{}^*(892)$, *D*-wave	

$\Sigma(2110)$ BRANCHING RATIOS

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

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

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

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

$\Gamma(\Lambda\pi)/\Gamma_{\text{total}}$ 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*-wave$)/\Gamma_{\text{total}}$ Γ_4/Γ

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

$\Gamma\left(N\overline{K}{}^*(892), D\text{-wave}\right)/\Gamma_{\text{total}}$ $\qquad$ 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) |