$K(3100)$

$$I^G(J^{PC}) = ?^?(?^{??})$$

OMITTED FROM SUMMARY TABLE

Narrow peak observed in several ($\Lambda\overline{p}$ + pions) and ($\overline{\Lambda}p$ + pions) states in Σ^- Be reactions by BOURQUIN 86 and in np and nA reactions by ALEEV 93. Not seen by BOEHNLEIN 91. If due to strong decays, this state has exotic quantum numbers ($B=0, Q=+1, S=-1$ for $\Lambda\overline{p}\pi^+\pi^+$ and $I \geq 3/2$ for $\Lambda\overline{p}\pi^-$). Needs confirmation.

$K(3100)$ MASS

VALUE (MeV)	DOCUMENT ID
$\approx$ **3100 OUR ESTIMATE**	

3-BODY DECAYS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
3054±11 OUR AVERAGE				
$3060\pm 7\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+$
$3056\pm 7\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-$
$3055\pm 8\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^-$
$3045\pm 8\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^+$

4-BODY DECAYS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
3059±11 OUR AVERAGE				
$3067\pm 6\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+\pi^+$
$3060\pm 8\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+\pi^-$
$3055\pm 7\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-\pi^-$
$3052\pm 8\pm20$	[1] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-\pi^+$

$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$

3105 ± 30	BOURQUIN	86	SPEC	$K(3100) \to \Lambda\overline{p}\pi^+\pi^+$
3115 ± 30	BOURQUIN	86	SPEC	$K(3100) \to \Lambda\overline{p}\pi^+\pi^-$

5-BODY DECAYS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT

$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$

3095 ± 30	BOURQUIN	86	SPEC	$K(3100) \to \Lambda\overline{p}\pi^+\pi^+\pi^-$

[1] Supersedes ALEEV 90.

$K(3100)$ WIDTH

3-BODY DECAYS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT

$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$

42 ± 16	[2] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+$
36 ± 15	[2] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-$
50 ± 18	[2] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^-$
30 ± 15	[2] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^+$

4-BODY DECAYS

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
22 ± 8		[2] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+\pi^+$
28 ± 12		[2] ALEEV	93	BIS2	$K(3100) \to \Lambda\overline{p}\pi^+\pi^-$
32 ± 15		[2] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-\pi^-$
30 ± 15		[2] ALEEV	93	BIS2	$K(3100) \to \overline{\Lambda}p\pi^-\pi^+$
<30	90	BOURQUIN	86	SPEC	$K(3100) \to \Lambda\overline{p}\pi^+\pi^+$
<80	90	BOURQUIN	86	SPEC	$K(3100) \to \Lambda\overline{p}\pi^+\pi^-$

5-BODY DECAYS

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<30	90	BOURQUIN	86	SPEC	$K(3100) \to$ $\Lambda\overline{p}\pi^+\pi^+\pi^-$

[2] Supersedes ALEEV 90.

$K(3100)$ DECAY MODES

	Mode
Γ_1	$K(3100)^0 \to \Lambda\overline{p}\pi^+$
Γ_2	$K(3100)^{--} \to \Lambda\overline{p}\pi^-$
Γ_3	$K(3100)^- \to \Lambda\overline{p}\pi^+\pi^-$
Γ_4	$K(3100)^+ \to \Lambda\overline{p}\pi^+\pi^+$
Γ_5	$K(3100)^0 \to \Lambda\overline{p}\pi^+\pi^+\pi^-$
Γ_6	$K(3100)^0 \to \Sigma(1385)^+\overline{p}$

$\Gamma\left(\Sigma(1385)^+\overline{p}\right)/\Gamma\left(\Lambda\overline{p}\pi^+\right)$ Γ_6/Γ_1

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.04	90	ALEEV	93	BIS2	$K(3100)^0 \to$ $\Sigma(1385)^+\overline{p}$

$K(3100)$ REFERENCES

ALEEV	93	PAN 56 1358	A.N. Aleev *et al.*	(BIS-2 Collab.)
		Translated from YAF 56 100.		
BOEHNLEIN	91	NPBPS B21 174	A. Boehnlein *et al.*	(FLOR, BNL, IND+)
ALEEV	90	ZPHY C47 533	A.N. Aleev *et al.*	(BIS-2 Collab.)
BOURQUIN	86	PL B172 113	M.H. Bourquin *et al.*	(GEVA, RAL, HEIDP+)