

K(3100)

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

OMITTED FROM SUMMARY TABLE

Narrow peak observed in several ($\Lambda\bar{p} + \text{pions}$) and ($\bar{\Lambda}p + \text{pions}$) 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 $\Lambda\bar{p}\pi^+\pi^+$ and $I \geq 3/2$ for $\Lambda\bar{p}\pi^-$). Needs confirmation.

K(3100) MASSVALUE (MeV)DOCUMENT ID **≈ 3100 OUR ESTIMATE****3-BODY DECAYS**VALUE (MeV)DOCUMENT IDTECNCOMMENT**3054 \pm 11 OUR AVERAGE**3060 \pm 7 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+$ 3056 \pm 7 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-$ 3055 \pm 8 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^-$ 3045 \pm 8 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^+$ **4-BODY DECAYS**VALUE (MeV)DOCUMENT IDTECNCOMMENT**3059 \pm 11 OUR AVERAGE**3067 \pm 6 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$ 3060 \pm 8 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$ 3055 \pm 7 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^-$ 3052 \pm 8 \pm 20¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^+$

● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●

3105 \pm 30BOURQUIN 86 SPEC $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$ 3115 \pm 30BOURQUIN 86 SPEC $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$ **5-BODY DECAYS**VALUE (MeV)DOCUMENT IDTECNCOMMENT

● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●

3095 \pm 30BOURQUIN 86 SPEC $K(3100) \rightarrow$
 $\Lambda\bar{p}\pi^+\pi^+\pi^-$ ¹Supersedes ALEEV 90.**K(3100) WIDTH****3-BODY DECAYS**VALUE (MeV)DOCUMENT IDTECNCOMMENT

● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●

42 \pm 16² ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+$ 36 \pm 15² ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-$ 50 \pm 18² ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^-$ 30 \pm 15² ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^+$

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	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^+$
28 ± 12		² ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^-$
32 ± 15		² ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda} p \pi^- \pi^-$
30 ± 15		² ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda} p \pi^- \pi^+$
<30	90	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^+$
<80	90	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^-$

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	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^+ \pi^-$
² Supersedes ALEEV 90.				

K(3100) DECAY MODES

Mode
$\Gamma_1 \quad K(3100)^0 \rightarrow \Lambda \bar{p} \pi^+$
$\Gamma_2 \quad K(3100)^{--} \rightarrow \Lambda \bar{p} \pi^-$
$\Gamma_3 \quad K(3100)^- \rightarrow \Lambda \bar{p} \pi^+ \pi^-$
$\Gamma_4 \quad K(3100)^+ \rightarrow \Lambda \bar{p} \pi^+ \pi^+$
$\Gamma_5 \quad K(3100)^0 \rightarrow \Lambda \bar{p} \pi^+ \pi^+ \pi^-$
$\Gamma_6 \quad K(3100)^0 \rightarrow \Sigma(1385)^+ \bar{p}$

$\Gamma(\Sigma(1385)^+ \bar{p}) / \Gamma(\Lambda \bar{p} \pi^+)$				Γ_6 / Γ_1
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.04	90	ALEEV 93	BIS2	$K(3100)^0 \rightarrow \Sigma(1385)^+ \bar{p}$

K(3100) REFERENCES

ALEEV 93	PAN 56 1358	A.N. Alev <i>et al.</i>	(BIS-2 Collab.)
BOEHNLEIN 91	NPBPS B21 174	A. Boehnlein <i>et al.</i>	(FLOR, BNL, IND+)
ALEEV 90	ZPHY C47 533	A.N. Alev <i>et al.</i>	(BIS-2 Collab.)
BOURQUIN 86	PL B172 113	M.H. Bourquin <i>et al.</i>	(GEVA, RAL, HEIDP+)