

**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  $\Sigma^-$  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) MASS**VALUE (MeV)DOCUMENT ID **$\approx 3100$  OUR ESTIMATE****3-BODY DECAYS**VALUE (MeV)DOCUMENT IDTECNCOMMENT**3054 $\pm$ 11 OUR AVERAGE**3060 $\pm$  7 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^+$ 3056 $\pm$  7 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \bar{\Lambda}p\pi^-$ 3055 $\pm$  8 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^-$ 3045 $\pm$  8 $\pm$ 20<sup>1</sup> 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 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$ 3060 $\pm$  8 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$ 3055 $\pm$  7 $\pm$ 20<sup>1</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^-$ 3052 $\pm$  8 $\pm$ 20<sup>1</sup> 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  $K(3100) \rightarrow$   
 $\Lambda\bar{p}\pi^+\pi^+\pi^-$ <sup>1</sup> Supersedes 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 $\pm$ 16<sup>2</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^+$ 36 $\pm$ 15<sup>2</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \bar{\Lambda}p\pi^-$ 50 $\pm$ 18<sup>2</sup> ALEEV 93 BIS2  $K(3100) \rightarrow \Lambda\bar{p}\pi^-$ 30 $\pm$ 15<sup>2</sup> 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. ● ● ●				
$22 \pm 8$		<sup>2</sup> ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^+$
$28 \pm 12$		<sup>2</sup> ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^-$
$32 \pm 15$		<sup>2</sup> ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda} p \pi^- \pi^-$
$30 \pm 15$		<sup>2</sup> 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	$K(3100) \rightarrow \Lambda \bar{p} \pi^+ \pi^+ \pi^-$
<sup>2</sup> Supersedes ALEEV 90.				

## K(3100) DECAY MODES

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

$\Gamma(\Sigma(1385)^+ \bar{p})/\Gamma(\Lambda \bar{p} \pi^+)$				$\Gamma_6/\Gamma_1$
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 Translated from YAF 56 100.	A.N. Aleev <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. Aleev <i>et al.</i>	(BIS-2 Collab.)
BOURQUIN	86	PL B172 113	M.H. Bourquin <i>et al.</i>	(GEVA, RAL, HEIDP+)