

# K(3100)

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

## OMITTED FROM SUMMARY TABLE

Narrow peak observed in several ( $\Lambda\bar{p}$  + pions) and ( $\bar{\Lambda}p$  + 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)  
 **$\approx 3100$  OUR ESTIMATE**

DOCUMENT ID

### 3-BODY DECAYS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>3054 \pm 11</math> OUR AVERAGE</b>			
$3060 \pm 7 \pm 20$	<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

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>3059 \pm 11</math> OUR AVERAGE</b>			
$3067 \pm 6 \pm 20$	<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. • • •

$3105 \pm 30$	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$
$3115 \pm 30$	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$

### 5-BODY DECAYS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>3095 \pm 30</math></b>	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+\pi^-$

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

<sup>1</sup>Supersedes ALEEV 90.

## K(3100) WIDTH

### 3-BODY DECAYS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>42 \pm 16</math></b>	<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	$K(3100) \rightarrow \bar{\Lambda}p\pi^+$

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

## 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+)