

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 Σ^- Be reactions Needs confirmation. 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)
 ≈ 3100 OUR ESTIMATE

DOCUMENT ID

3-BODY DECAYS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
3054 ± 11 OUR AVERAGE			
$3060 \pm 7 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^+$
$3056 \pm 7 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda}p\pi^-$
$3055 \pm 8 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^-$
$3045 \pm 8 \pm 20$	¹ 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>
3059 ± 11 OUR AVERAGE			
$3067 \pm 6 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$
$3060 \pm 8 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$
$3055 \pm 7 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^-$
$3052 \pm 8 \pm 20$	¹ ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
3105 ± 30	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$
3115 ± 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>
• • • We do not use the following data for averages, fits, limits, etc. • • •			
3095 ± 30	BOURQUIN 86	SPEC	$K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+\pi^-$

¹Supersedes ALEEV 90.

K(3100) WIDTH**3-BODY DECAYS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
• • • We do not use the following data for averages, fits, limits, etc. • • •			
42 ± 16	² ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^+$
36 ± 15	² ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda}p\pi^-$
50 ± 18	² ALEEV 93	BIS2	$K(3100) \rightarrow \Lambda\bar{p}\pi^-$
30 ± 15	² ALEEV 93	BIS2	$K(3100) \rightarrow \bar{\Lambda}p\pi^+$

4-BODY DECAYS

<u>VALUE (MeV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● 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

<u>VALUE (MeV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● 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	
Γ_1	$K(3100)^0 \rightarrow \Lambda \bar{p} \pi^+$
Γ_2	$K(3100)^{--} \rightarrow \Lambda \bar{p} \pi^-$
Γ_3	$K(3100)^- \rightarrow \Lambda \bar{p} \pi^+ \pi^-$
Γ_4	$K(3100)^+ \rightarrow \Lambda \bar{p} \pi^+ \pi^+$
Γ_5	$K(3100)^0 \rightarrow \Lambda \bar{p} \pi^+ \pi^+ \pi^-$
Γ_6	$K(3100)^0 \rightarrow \Sigma(1385)^+ \bar{p}$

$\Gamma(\Sigma(1385)^+ \bar{p}) / \Gamma(\Lambda \bar{p} \pi^+)$				Γ_6 / Γ_1
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 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.	+Balandin+	(BIS-2 Collab.)
BOEHNLEIN	91	NP B21 174 (suppl)	+Chung+	(FLOR, BNL, IND, RICE, MASD)
ALEEV	90	ZPHY C47 533	+Arefiev, Balandin+	(BIS-2 Collab.)
BOURQUIN	86	PL B172 113	+Brown+	(GEVA, RAL, HEIDP, LAUS, BRIS, CERN)