

$K(3100)$

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

OMITTED FROM SUMMARY TABLE

also known as $K_J^?(3100)$

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

NODE=M129

NODE=M129

$K(3100)$ MASS

VALUE (MeV)

DOCUMENT ID

≈ 3100 OUR ESTIMATE

NODE=M129205

NODE=M129M

→ UNCHECKED ←

3-BODY DECAYS

VALUE (MeV)

DOCUMENT ID

TECN

COMMENT

3054 ± 11 OUR AVERAGE

3060 ± 7 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+$

3056 ± 7 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-$

3055 ± 8 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^-$

3045 ± 8 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^+$

NODE=M129M1

NODE=M129M1

OCCUR=2

OCCUR=3

OCCUR=4

4-BODY DECAYS

VALUE (MeV)

DOCUMENT ID

TECN

COMMENT

3059 ± 11 OUR AVERAGE

3067 ± 6 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^+$

3060 ± 8 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$

3055 ± 7 ± 20

¹ ALEEV 93 BIS2 $K(3100) \rightarrow \bar{\Lambda}p\pi^-\pi^-$

3052 ± 8 ± 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 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$

NODE=M129M2

NODE=M129M2

OCCUR=2

OCCUR=3

OCCUR=4

OCCUR=2

5-BODY DECAYS

VALUE (MeV)

DOCUMENT ID

TECN

COMMENT

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

3095 ± 30

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

¹ Supersedes ALEEV 90.

NODE=M129M3

NODE=M129M3

NODE=M129M;LINKAGE=A

$K(3100)$ WIDTH

NODE=M129210

3-BODY DECAYS

VALUE (MeV)

DOCUMENT ID

TECN

COMMENT

• • • 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 $K(3100) \rightarrow \bar{\Lambda}p\pi^+$

NODE=M129W1

NODE=M129W1

OCCUR=2

OCCUR=3

OCCUR=4

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 $K(3100) \rightarrow \Lambda\bar{p}\pi^+\pi^-$

NODE=M129W2

NODE=M129W2

OCCUR=2

OCCUR=3

OCCUR=4

OCCUR=2

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.

NODE=M129W3

NODE=M129W3

NODE=M129W;LINKAGE=A

K(3100) DECAY MODES

NODE=M129215;NODE=M129

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	$K(3100)^0 \rightarrow \Sigma(1385)^+ \bar{p}$

DESIG=1
DESIG=2
DESIG=3
DESIG=4
DESIG=5
DESIG=6

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

NODE=M129R1
NODE=M129R1

K(3100) REFERENCES

NODE=M129

ALEEV	93	PAN 56 1358	A.N. Aleev <i>et al.</i>	(BIS-2 Collab.)
		Translated from YAF 56 100.		
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+)

REFID=43668
REFID=41743
REFID=42173
REFID=22928