

$\Omega(2012)^-$

$I(J^P) = 0(?^-)$ Status: ***

Seen in $\Xi^0 K^-$ and $\Xi^- K_S^0$ decays with a combined significance of 8.3 standard deviations. BELLE results from JIA 19 and JIA 25 are incompatible. JIA 25 claims the older analysis was based on an inaccurate model for decays.

$\Omega(2012)^-$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2012.5±0.6 OUR AVERAGE				
2012.5±0.7±0.5	844	JIA	25	BELL In $\Upsilon(1S, 2S, 3S)$
2012.4±0.7±0.6	520	YELTON	18A	BELL In $\Upsilon(1S, 2S, 3S)$

$\Omega(2012)^-$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
6.4^{+2.5}_{-2.0}±1.6	520	YELTON	18A	BELL In $\Upsilon(1S), \Upsilon(2S), \Upsilon(3S)$

$\Omega(2012)^-$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi K$	
$\Gamma_2 \quad \Xi^0 K^-$	seen
$\Gamma_3 \quad \Xi^- \overline{K}^0$	seen
$\Gamma_4 \quad (\Xi \pi) K$	
$\Gamma_5 \quad \Xi^- \pi^+ K^-$	seen

$\Omega(2012)^-$ BRANCHING RATIOS

$\Gamma((\Xi \pi) K)/\Gamma(\Xi K)$ Γ_4/Γ_1

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
0.99 ±0.26±0.06		844	JIA	25	BELL In $\Upsilon(1S, 2S, 3S)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
<0.119	90		JIA	19	BELL In $\Upsilon(1S, 2S, 3S)$

$\Gamma(\Xi^0 K^-)/\Gamma(\Xi^- \overline{K}^0)$ Γ_2/Γ_3

VALUE	DOCUMENT ID	TECN	COMMENT
1.2±0.3	YELTON	18A	BELL In $\Upsilon(1S, 2S, 3S)$

$\Gamma(\Xi^- \pi^+ K^-)/\Gamma(\Xi^0 K^-)$ Γ_5/Γ_2

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<0.078	90	JIA	19	BELL In $\Upsilon(1S, 2S, 3S)$

$\Gamma(\Xi^-\pi^+K^-)/\Gamma(\Xi^-\overline{K}^0)$					Γ_5/Γ_3
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
<0.093	90	JIA	19	BELL In $\Upsilon(1S, 2S, 3S)$	

$\Omega(2012)^-$ REFERENCES

JIA	25	PL B860 139224	S. Jia <i>et al.</i>	(BELLE Collab.)
JIA	19	PR D100 032006	S. Jia <i>et al.</i>	(BELLE Collab.)
YELTON	18A	PRL 121 052003	J. Yelton <i>et al.</i>	(BELLE Collab.)