

X(1750)

$$I^G(J^{PC}) = ?^-(1^{--})$$

OMITTED FROM SUMMARY TABLE

The X(1750) was separated from the $\phi(1680)$ in the 2022 listings due to its incompatible mass and incompatible pattern of $\bar{K}K$ and $\bar{K}^*(892)K$ branching fractions.

NODE=M255

NODE=M255

X(1750) MASS

NODE=M255M

NODE=M255M

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
1753.8 ± 2.7 OUR AVERAGE			
1784 ± 12 $^{+0}_{-27}$	ABLIKIM	20F BES3	$\psi(2S) \rightarrow K^+ K^- \eta$
1753.5 ± 1.5 ± 2.3	LINK	02K FOCS	20-160 $\gamma p \rightarrow K^+ K^- p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
1726 ± 22	BUSENITZ	89 TPS	$\gamma p \rightarrow K^+ K^- X$
1760 ± 20	ATKINSON	85C OMEG	20-70 $\gamma p \rightarrow K \bar{K} X$
1690 ± 10	ASTON	81F OMEG	25-70 $\gamma p \rightarrow K^+ K^- X$

X(1750) WIDTH

NODE=M255W

NODE=M255W

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
120 ± 10 OUR AVERAGE			
106 $^{+22}_{-19}$ $^{+8}_{-36}$	ABLIKIM	20F BES3	$\psi(2S) \rightarrow K^+ K^- \eta$
122.2 ± 6.2 ± 8.0	LINK	02K FOCS	20-160 $\gamma p \rightarrow K^+ K^- p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
121 ± 47	BUSENITZ	89 TPS	$\gamma p \rightarrow K^+ K^- X$
80 ± 40	ATKINSON	85C OMEG	20-70 $\gamma p \rightarrow K \bar{K} X$
100 ± 40	ASTON	81F OMEG	25-70 $\gamma p \rightarrow K^+ K^- X$

X(1750) DECAY MODES

NODE=M255215;NODE=M255

Mode	Fraction (Γ_i/Γ)
Γ_1 $K^+ K^-$	seen
Γ_2 $\bar{K}^*(892)^0 K_S^0$	not seen
Γ_3 $K^*(892)^\pm K^\mp$	not seen
Γ_4 $\eta \phi$	not seen

DESIG=1;OUR EVAL;→ UNCHECKED ←
DESIG=2;OUR EVAL;→ UNCHECKED ←
DESIG=3;OUR EVAL;→ UNCHECKED ←
DESIG=4

 $\Gamma(\bar{K}^*(892)^0 K_S^0)/\Gamma(K^+ K^-)$ Γ_2/Γ_1 NODE=M255R01
NODE=M255R01

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.065	90	LINK	02K FOCS	$\gamma p \rightarrow K^+ K^- p$

 $\Gamma(K^*(892)^\pm K^\mp)/\Gamma(K^+ K^-)$ Γ_3/Γ_1 NODE=M255R02
NODE=M255R02

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.183	90	LINK	02K FOCS	$\gamma p \rightarrow K^+ K^- p$

 $\Gamma(\eta \phi)/\Gamma_{\text{total}}$ Γ_4/Γ NODE=M255R00
NODE=M255R00

VALUE	DOCUMENT ID	TECN	COMMENT
not seen	¹ ZHU	23A RVUE	$e^+ e^- \rightarrow \eta \phi$

¹ Reported with a 2 σ significance in the fit and an upper limit of $\Gamma(e^+ e^-) B(X(1750) \rightarrow \eta \phi)$ in the range 136–322 eV.

NODE=M255R00;LINKAGE=A

X(1750) REFERENCES

NODE=M255

ZHU	23A	CP C47 113003	W. Zhu, X. Wang	(RVUE)	REFID=62439
ABLIKIM	20F	PR D101 032008	M. Ablikim <i>et al.</i>	(BESIII Collab.)	REFID=60256
LINK	02K	PL B545 50	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=48845
BUSENITZ	89	PR D40 1	J.K. Busenitz <i>et al.</i>	(ILL, FNAL)	REFID=40927
ATKINSON	85C	ZPHY C27 233	M. Atkinson <i>et al.</i>	(BONN, CERN, GLAS+)	REFID=21596
ASTON	81F	PL 104B 231	D. Aston	(BONN, CERN, EPOL, GLAS, LANC+)	REFID=21585