

$a_0(1950)$

$$I^G(J^{PC}) = 1^-(0^{++})$$

OMITTED FROM SUMMARY TABLE

Needs confirmation. Seen in $\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K\bar{K}\pi$ by LEES 16A with significance 2.5σ in $K_S^0 K^\pm \pi^\mp$ and 4.2σ in $K^+ K^- \pi^0$.

 $a_0(1950)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1931±14±22	12k	^{1,2} LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K\bar{K}\pi$
1949±32±76	8k	¹ LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp$
1927±15±23	4k	¹ LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K^+ K^- \pi^0$

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

¹ From a model-independent partial wave analysis fit to a relativistic Breit-Wigner function with a floating width.

² Weighted average of the $K_S^0 K^\pm$ and $K^+ K^-$ decay modes.

 $a_0(1950)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
271±22±29	12k	^{1,2} LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K\bar{K}\pi$
265±36±110	8k	¹ LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp$
274±28±30	4k	¹ LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K^+ K^- \pi^0$

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

¹ From a model-independent partial wave analysis fit to a relativistic Breit-Wigner function with a floating mass.

² Weighted average of the $K_S^0 K^\pm$ and $K^+ K^-$ decay modes.

 $a_0(1950)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\bar{K}$	seen

 $a_0(1950)$ BRANCHING RATIOS

$\Gamma(K\bar{K})/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
seen	12k	¹ LEES	16A BABR	$\gamma\gamma \rightarrow \eta_c(1S) \rightarrow K\bar{K}\pi$	

¹ From a model-independent partial wave analysis.

 $a_0(1950)$ REFERENCES

LEES	16A	PR D93 012005	J.P. Lees <i>et al.</i>	(BABAR Collab.)
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