

$\eta_1(1855)$

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

OMITTED FROM SUMMARY TABLE

Meson with exotic (non- $q\bar{q}$) quantum numbers. A state decaying into $\eta\eta'$ with possible quantum numbers 1^{-+} was reported earlier in this mass region BARBERIS 00A in high energy central pp production and by ALDE 91B in $\pi^- p$ interactions, see the $f_2(1910)$, and the review on "Spectroscopy of Light Meson Resonances."

$\eta_1(1855)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$1855 \pm 9^{+6}_{-1}$	¹ ABLIKIM	22AI	BES3 $J/\psi(1S) \rightarrow \gamma\eta\eta'$

¹ From a Breit-Wigner fit involving 9 resonances and the resonating exotic $\eta_1(1855) \rightarrow \eta\eta'$ P -wave. For analysis details see ABLIKIM 22AS.

$\eta_1(1855)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$188 \pm 18^{+3}_{-8}$	¹ ABLIKIM	22AI	BES3 $J/\psi(1S) \rightarrow \gamma\eta\eta'$

¹ From a Breit-Wigner fit involving 9 resonances and the resonating exotic $\eta_1(1855) \rightarrow \eta\eta'$ P -wave. For analysis details see ABLIKIM 22AS.

$\eta_1(1855)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \eta\eta'$	seen

$\Gamma(\eta\eta')/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
seen	ABLIKIM	22AI	BES3 $J/\psi \rightarrow \gamma\eta\eta'$	
seen	BARBERIS	00A	450 $pp \rightarrow p_f \eta\eta' p_s$	
seen	ALDE	91B	GAM2 38 $\pi^- p \rightarrow \eta\eta' n$	

$\eta_1(1855)$ REFERENCES

ABLIKIM	22AI	PRL 129 192002	M. Ablikim <i>et al.</i>	(BESIII Collab.)
Also		PR D106 072012	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	22AS	PR D106 072012	M. Ablikim <i>et al.</i>	(BESIII Collab.)
Also		PR D107 079901 (errata.)	M. Ablikim <i>et al.</i>	(BESIII Collab.)
BARBERIS	00A	PL B471 429	D. Barberis <i>et al.</i>	(WA 102 Collab.)
ALDE	91B	SJNP 54 455	D.M. Alde <i>et al.</i>	(SERP, BELG, LANL, LAPP+)
		Translated from YAF 54 751.		