$\eta_b(2S)$

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

OMITTED FROM SUMMARY TABLE

Quantum numbers shown are quark-model predictions.

$\eta_b(2S)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
9999.0±3.5$^{+2.8}_{-1.9}$	26k	[1] MIZUK	12	BELL	$e^+e^- \to \gamma\pi^+\pi^-$ + hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
9974.6±2.3±2.1	11 ± 4	[2,3] DOBBS	12		$\Upsilon(2S) \to \gamma$ hadrons

[1] Assuming $\Gamma_{\eta_b(2S)} = 4.9$ MeV. Not independent of the corresponding mass difference measurement.
[2] Obtained by analyzing CLEO III data but not authored by the CLEO Collaboration.
[3] Assuming $\Gamma_{\eta_b(2S)} = 5$ MeV. Not independent of the corresponding mass difference measurement.

$m_{\Upsilon(2S)} - m_{\eta_b(2S)}$

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
24.3±3.5$^{+2.8}_{-1.9}$	26k	[4] MIZUK	12	BELL	$e^+e^- \to \gamma\pi^+\pi^-$ + hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
48.7±2.3±2.1	11 ± 4	[5,6] DOBBS	12		$\Upsilon(2S) \to \gamma$ hadrons

[4] Assuming $\Gamma_{\eta_b(2S)} = 4.9$ MeV. Not independent of the corresponding mass measurement.
[5] Obtained by analyzing CLEO III data but not authored by the CLEO Collaboration.
[6] Assuming $\Gamma_{\eta_b(2S)} = 5$ MeV. Not independent of the corresponding mass measurement.

$\eta_b(2S)$ WIDTH

VALUE (MeV)	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
<24	90	MIZUK	12	BELL	$e^+e^- \to \gamma\pi^+\pi^-$ hadrons

$\eta_b(2S)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	hadrons	seen

$\eta_b(2S)$ BRANCHING RATIOS

$\Gamma(\text{hadrons})/\Gamma_{\text{total}}$ Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	26k	MIZUK	12	BELL	$e^+e^- \to \gamma\pi^+\pi^-$ hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen		[7] DOBBS	12		$\Upsilon(2S) \to \gamma$ hadrons

[7] Obtained by analyzing CLEO III data but not authored by the CLEO Collaboration.

$\eta_b(2S)$ REFERENCES

DOBBS	12	PRL 109 082001	S. Dobbs *et al.*	
MIZUK	12	PRL 109 232002	R. Mizuk *et al.*	(BELLE Collab.)