$h_b(2P)$

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

Quantum numbers are quark model predictions. $C = -$ established by $\eta_b\gamma$ decay.

$h_b(2P)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
10259.8±0.5±1.1	90k	[1] MIZUK	12	BELL	$e^+e^- \to \pi^+\pi^-$ hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$10259.8\pm0.6^{+1.4}_{-1.0}$	83.9k	[2] ADACHI	12	BELL	10.86 $e^+e^- \to \pi^+\pi^-$ MM

[1] Observed with 9 standard deviations significance.
[2] Superseded by MIZUK 12.

$h_b(2P)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	hadrons	not seen
Γ_2	$\eta_b(1S)\gamma$	(22± 5) %
Γ_3	$\eta_b(2S)\gamma$	(48±13) %

$h_b(2P)$ BRANCHING RATIOS

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

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
not seen	83.9k	ADACHI	12	BELL	10.86 $e^+e^- \to \pi^+\pi^-$ MM

$\Gamma(\eta_b(1S)\gamma)/\Gamma_{\text{total}}$ Γ_2/Γ

VALUE (units 10^{-2})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{22.3\pm3.8^{+3.1}_{-3.3}}$	10k	MIZUK	12	BELL	$e^+e^- \to (\gamma)\pi^+\pi^-$ hadrons

$\Gamma(\eta_b(2S)\gamma)/\Gamma_{\text{total}}$ Γ_3/Γ

VALUE (units 10^{-2})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{47.5\pm10.5^{+6.8}_{-7.7}}$	26k	MIZUK	12	BELL	$e^+e^- \to (\gamma)\pi^+\pi^-$ hadrons

$h_b(2P)$ REFERENCES

ADACHI	12	PRL 108 032001	I. Adachi *et al.*	(BELLE Collab.)
MIZUK	12	PRL 109 232002	R. Mizuk *et al.*	(BELLE Collab.)