

$h_b(1P)$

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

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

$h_b(1P)$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
9899.3 ± 1.0 OUR AVERAGE				
9899.1 ± 0.4 ± 1.0	70k	MIZUK	12 BELL	$e^+ e^- \rightarrow \pi^+ \pi^-$ hadrons
9902 ± 4 ± 2	10.8k	LEES	11K BABR	$\Upsilon(3S) \rightarrow \eta_b \gamma \pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
9898.2 ^{+1.1+1.0} _{-1.0-1.1}	50.0k	¹ ADACHI	12 BELL	10.86 $e^+ e^- \rightarrow \pi^+ \pi^-$ MM
¹ Superseded by MIZUK 12.				

$h_b(1P)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $\eta_b(1S)\gamma$	(49 ⁺⁸ ₋₇) %

$h_b(1P)$ BRANCHING RATIOS

$\Gamma(\eta_b(1S)\gamma)/\Gamma_{\text{total}}$	Γ_1/Γ			
<u>VALUE (units 10⁻²)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
49.2 ± 5.7^{+5.6}_{-3.3}	24k	MIZUK	12 BELL	$e^+ e^- \rightarrow (\gamma)\pi^+ \pi^-$ hadrons
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
seen	10.8k	LEES	11K BABR	$\Upsilon(3S) \rightarrow \eta_b \gamma \pi^0$

$h_b(1P)$ REFERENCES

ADACHI	12	PRL 108 032001	I. Adachi <i>et al.</i>	(BELLE Collab.)
MIZUK	12	PRL 109 232002	R. Mizuk <i>et al.</i>	(BELLE Collab.)
LEES	11K	PR D84 091101	J.P. Lees <i>et al.</i>	(BABAR Collab.)