

$\chi_b(3P)$

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

A mixture of $J = 0, 1,$ and 2 spin components observed in the radiative decay to $\Upsilon(1S)$ and $\Upsilon(2S)$, therefore $C = +$.

$\chi_b(3P)$ MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10534 ± 9 OUR AVERAGE			
10530 ± 5 ± 9	¹ AAD	12A ATLS	$pp \rightarrow \gamma \mu^+ \mu^- X$
10551 ± 14 ± 17	¹ ABAZOV	12Q D0	$p\bar{p} \rightarrow \gamma \mu^+ \mu^- X$

¹ The mass barycenter of the merged lineshapes from the $J = 1$ and 2 states.

$\chi_b(3P)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Upsilon(1S)\gamma$	seen
$\Gamma_2 \quad \Upsilon(2S)\gamma$	seen

$\chi_b(3P)$ BRANCHING RATIOS

$\Gamma(\Upsilon(1S)\gamma)/\Gamma_{\text{total}}$	Γ_1/Γ
<u>VALUE</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
seen	AAD 12A ATLS $pp \rightarrow \gamma \mu^+ \mu^- X$
• • • We do not use the following data for averages, fits, limits, etc. • • •	
seen	ABAZOV 12Q D0 $p\bar{p} \rightarrow \gamma \mu^+ \mu^- X$
 $\Gamma(\Upsilon(2S)\gamma)/\Gamma_{\text{total}}$	 Γ_2/Γ
<u>VALUE</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
seen	AAD 12A ATLS $pp \rightarrow \gamma \mu^+ \mu^- X$

$\chi_b(3P)$ REFERENCES

AAD	12A	PRL 108 152001	G. Aad <i>et al.</i>	(ATLAS Collab.)
ABAZOV	12Q	PR D86 031103	V.M. Abazov <i>et al.</i>	(D0 Collab.)