

$\chi_b(3P)$

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

OMITTED FROM SUMMARY TABLE

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 (GeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10.530 ± 0.005 ± 0.009	¹ AAD	12A ATLS	$pp \rightarrow \gamma \mu^+ \mu^- + X$

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)
Γ_1 $\Upsilon(1S)\gamma$	seen
Γ_2 $\Upsilon(2S)\gamma$	seen

$\chi_b(3P)$ BRANCHING RATIOS

<u>$\Gamma(\Upsilon(1S)\gamma)/\Gamma_{\text{total}}$</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u>Γ_1/Γ</u>
seen	AAD	12A ATLS	$pp \rightarrow \gamma \mu^+ \mu^- + X$	

<u>$\Gamma(\Upsilon(2S)\gamma)/\Gamma_{\text{total}}$</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u>Γ_2/Γ</u>
seen	AAD	12A ATLS	$pp \rightarrow \gamma \mu^+ \mu^- + X$	

$\chi_b(3P)$ REFERENCES

AAD 12A PRL 108 152001 G. Aad *et al.* (ATLAS Collab.)