

**$\chi_{b2}(3P)$** 

$$I^G(J^{PC}) = 0^+(2^{++})$$

Observed in the radiative decay to  $\Upsilon(3S)$ , therefore  $C = +$ .  $J$  needs confirmation.

 **$\chi_{b2}(3P)$  MASS**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b><math>10524.02 \pm 0.57 \pm 0.53</math></b>	<sup>1</sup> SIRUNYAN	18N CMS	$pp \rightarrow \gamma \mu^+ \mu^- X$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
10530 ± 5 ± 9	<sup>2</sup> AAD	12A ATLS	$pp \rightarrow \gamma \mu^+ \mu^- X$

<sup>1</sup> Systematic error includes an additional 0.5 MeV for the uncertainty on the  $\Upsilon(3S)$  mass. Also measures  $m_{\chi_{b2}(3P)} - m_{\chi_{b1}(3P)} = 10.60 \pm 0.64 \pm 0.17$  MeV. A total of 372  $\chi_{b1}(3P)$  and  $\chi_{b2}(3P)$  events was observed.

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

 **$\chi_{b2}(3P)$  DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Upsilon(3S)\gamma$	seen

 **$\chi_{b2}(3P)$  BRANCHING RATIOS**

$\Gamma(\Upsilon(3S)\gamma)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
<b>seen</b>	SIRUNYAN	18N CMS	$pp \rightarrow \gamma \mu^+ \mu^- X$	

 **$\chi_{b2}(3P)$  REFERENCES**

SIRUNYAN	18N	PRL 121 092002	A.M. Sirunyan <i>et al.</i>	(CMS Collab.)
AAD	12A	PRL 108 152001	G. Aad <i>et al.</i>	(ATLAS Collab.)