



$$I(J^P) = 1(\frac{3}{2}^+) \text{ Status: } ***$$

$I, J, P$  need confirmation.

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### $\Sigma_b^*$ MASS

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VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$5832.1 \pm 0.7^{+1.7}_{-1.8}$	<sup>1</sup> AALTONEN	12F	CDF $\rho\bar{p}$ at 1.96 TeV

#### $\Sigma_b^{*-}$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$5835.1 \pm 0.6^{+1.7}_{-1.8}$	<sup>1</sup> AALTONEN	12F	CDF $\rho\bar{p}$ at 1.96 TeV

#### $m_{\Sigma_b^{*+}} - m_{\Sigma_b^{*-}}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$-3.0^{+1.0}_{-0.9} \pm 0.1$	<sup>1</sup> AALTONEN	12F	CDF $\rho\bar{p}$ at 1.96 TeV

<sup>1</sup> Measured using the fully reconstructed  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$  and  $\Lambda_c^+ \rightarrow K^- \pi^+$  decays.

### $\Sigma_b^*$ WIDTH

#### $\Sigma_b^{*+}$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$11.5^{+2.7+1.0}_{-2.2-1.5}$	<sup>2</sup> AALTONEN	12F	CDF $\rho\bar{p}$ at 1.96 TeV

#### $\Sigma_b^{*-}$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$7.5^{+2.2+0.9}_{-1.8-1.4}$	<sup>2</sup> AALTONEN	12F	CDF $\rho\bar{p}$ at 1.96 TeV

<sup>2</sup> Measured using the fully reconstructed  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$  and  $\Lambda_c^+ \rightarrow K^- \pi^+$  decays.

#### $m_{\Sigma_b^*} - m_{\Sigma_b}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$21.2^{+2.0+0.4}_{-1.9-0.3}$	<sup>3</sup> AALTONEN	07K	CDF $\rho\bar{p}$ at 1.96 TeV

<sup>3</sup> Observed four  $\Lambda_b^0 \pi^\pm$  resonances in the fully reconstructed decay mode  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$ , where  $\Lambda_c^+ \rightarrow p K^- \pi^+$ . Assumes  $m_{\Sigma_b^{*+}} - m_{\Sigma_b^+} = m_{\Sigma_b^{*-}} - m_{\Sigma_b^-}$

### $\Sigma_b^*$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Lambda_b^0 \pi$	dominant

### $\Sigma_b^*$ BRANCHING RATIOS

$\Gamma(\Lambda_b^0 \pi)/\Gamma_{\text{total}}$				$\Gamma_1/\Gamma$
<i>VALUE</i>	<i>DOCUMENT ID</i>	<i>TECN</i>	<i>COMMENT</i>	
<b>dominant</b>	AALTONEN	07K	CDF	$p\bar{p}$ at 1.96 TeV

### $\Sigma_b^*$ REFERENCES

AALTONEN	12F	PR D85 092011	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN	07K	PRL 99 202001	T. Aaltonen <i>et al.</i>	(CDF Collab.)