



$I(J^P) = 1(\frac{3}{2}^+)$ Status: ***
 I, J, P need confirmation.

I, J, P need confirmation. Quantum numbers shown are quark-model predictions.

Σ_b^* MASS

Σ_b^{*+} MASS

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

Σ_b^{*-} MASS

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

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

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

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

Σ_b^* WIDTH

Σ_b^{*+} WIDTH

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

Σ_b^{*-} WIDTH

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

² 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
$21.2^{+2.0+0.4}_{-1.9-0.3}$	³ AALTONEN	07K	CDF $\rho\bar{p}$ at 1.96 TeV

³ 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 $m_{\Sigma_b^{*+}} - m_{\Sigma_b^+} = m_{\Sigma_b^{*-}} - m_{\Sigma_b^-}$

Σ_b^* DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Lambda_b^0 \pi$	dominant

Σ_b^* BRANCHING RATIOS

$\Gamma(\Lambda_b^0 \pi)/\Gamma_{\text{total}}$				Γ_1/Γ
<i>VALUE</i>	<i>DOCUMENT ID</i>	<i>TECN</i>	<i>COMMENT</i>	
dominant	AALTONEN	07K	CDF	$p\bar{p}$ at 1.96 TeV

Σ_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.)