

$B_2^*(5747)^0$ $I(J^P) = \frac{1}{2}(2^+)$ Status: ***
 I, J, P need confirmation.

Quantum numbers shown are quark-model predictions.

 $B_2^*(5747)^0$ MASS

OUR FIT uses m_{B^+} , $m_{B_1^0} - m_{B^+}$, and $m_{B_2^{*0}} - m_{B_1^0}$ to determine $m_{B_2^*(5747)^0}$. The -0.659 correlation between statistical uncertainties of $m_{B_1^0} - m_{B^+}$ and $m_{B_2^{*0}} - m_{B_1^0}$ measurements reported by ABAZOV 07T is taken into account.

VALUE (MeV)	DOCUMENT ID
5739 ± 5 OUR FIT	Error includes scale factor of 4.0.

 $m_{B_2^{*0}} - m_{B_1^0}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
14 ± 6 OUR FIT	Error includes scale factor of 3.4.		
26.2 ± 3.1 ± 0.9	¹ ABAZOV	07T D0	$p\bar{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
14.9 ^{+2.2+1.2} _{-2.5-1.4}	¹ AALTONEN	09D CDF	Repl. by AALTONEN 14I

¹ Observed in $B_2^{*0} \rightarrow B^{*+} \pi^-$ and $B_2^{*0} \rightarrow B^+ \pi^-$. **$m_{B_2^{*0}} - m_{B^+}$**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
460 ± 5 OUR FIT	Error includes scale factor of 4.0.		
457.5 ± 1.2^{+0.8}_{-0.9}	² AALTONEN	14I CDF	$p\bar{p}$ at 1.96 TeV
² AALTONEN 14I reports $m_{B_2^*(5747)^0} - m_{B^+} - m_{\pi^-} = 317.9 \pm 1.2+0.8-0.9$ MeV which we adjusted by the π^- mass.			

 $B_2^*(5747)^0$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
22⁺³₋₂ ⁺⁴₋₅	AALTONEN	14I CDF	$p\bar{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
22.7 ^{+3.8+3.2} _{-3.2-10.2}	AALTONEN	09D CDF	Repl. by AALTONEN 14I

 $B_2^*(5747)^0$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $B^+ \pi^-$	dominant
Γ_2 $B^{*+} \pi^-$	dominant

$B_2^*(5747)^0$ BRANCHING RATIOS

$\Gamma(B^+ \pi^-)/\Gamma_{\text{total}}$

Γ_1/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
dominant	AALTONEN 09D	CDF	$\rho\bar{p}$ at 1.96 TeV
dominant	ABAZOV 07T	D0	$\rho\bar{p}$ at 1.96 TeV

$\Gamma(B^{*+} \pi^-)/\Gamma_{\text{total}}$

Γ_2/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
dominant	AALTONEN 09D	CDF	$\rho\bar{p}$ at 1.96 TeV
dominant	ABAZOV 07T	D0	$\rho\bar{p}$ at 1.96 TeV

$\Gamma(B^{*+} \pi^-)/\Gamma(B^+ \pi^-)$

Γ_2/Γ_1

VALUE	DOCUMENT ID	TECN	COMMENT
$1.10 \pm 0.42 \pm 0.31$	³ ABAZOV 07T	D0	$\rho\bar{p}$ at 1.96 TeV

³ Converted from measured ratio of $R = B(B_2^{*0} \rightarrow B^{*+} \pi^-) / B(B_2^{*0} \rightarrow B^{(*)+} \pi^-) = 0.475 \pm 0.095 \pm 0.069$.

$B_2^*(5747)^0$ REFERENCES

AALTONEN 14I	PR D90 012013	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN 09D	PRL 102 102003	T. Aaltonen <i>et al.</i>	(CDF Collab.)
ABAZOV 07T	PRL 99 172001	V.M. Abazov <i>et al.</i>	(D0 Collab.)