

# $B_2^*(5747)^0$

$I(J^P) = \frac{1}{2}(2^+)$  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.

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>
<b>5743 ± 5 OUR FIT</b>	Error includes scale factor of 2.9.

## $B_2^*(5747)^0$ WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>22.7<sup>+3.8+3.2</sup><sub>-3.2-10.2</sub></b>	AALTONEN	09D	CDF $\rho\bar{p}$ at 1.96 TeV

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

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>19 ± 6 OUR FIT</b>	Error includes scale factor of 3.0.		
<b>19 ± 6 OUR AVERAGE</b>	Error includes scale factor of 2.8.		
14.9 <sup>+2.2+1.2</sup> <sub>-2.5-1.4</sub>	<sup>1</sup> AALTONEN	09D	CDF $\rho\bar{p}$ at 1.96 TeV
26.2 ± 3.1 ± 0.9	<sup>1</sup> ABAZOV	07T	D0 $\rho\bar{p}$ at 1.96 TeV

<sup>1</sup> Observed in  $B_2^{*0} \rightarrow B^{*+} \pi^-$  and  $B_2^{*0} \rightarrow B^+ \pi^-$ .

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

	<u>Mode</u>	<u>Fraction (<math>\Gamma_i/\Gamma</math>)</u>
$\Gamma_1$	$B^+ \pi^-$	dominant
$\Gamma_2$	$B^{*+} \pi^-$	dominant

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

<u><math>\Gamma(B^+ \pi^-)/\Gamma_{\text{total}}</math></u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u><math>\Gamma_1/\Gamma</math></u>
dominant	AALTONEN	09D	CDF $\rho\bar{p}$ at 1.96 TeV	
<b>dominant</b>	ABAZOV	07T	D0 $\rho\bar{p}$ at 1.96 TeV	

$\Gamma(B^{*+} \pi^-) / \Gamma_{\text{total}}$				$\Gamma_2 / \Gamma$
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
dominant	AALTONEN	09D	CDF	$\rho\bar{p}$ at 1.96 TeV
<b>dominant</b>	ABAZOV	07T	D0	$\rho\bar{p}$ at 1.96 TeV

$\Gamma(B^{*+} \pi^-) / \Gamma(B^+ \pi^-)$				$\Gamma_2 / \Gamma_1$
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b><math>1.10 \pm 0.42 \pm 0.31</math></b>	<sup>2</sup> ABAZOV	07T	D0	$\rho\bar{p}$ at 1.96 TeV

<sup>2</sup> 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	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.)