

$B_1(5721)^0$ $I(J^P) = \frac{1}{2}(1^+)$ Status: ***
 I, J, P need confirmation.

Quantum numbers shown are quark-model predictions.

 $B_1(5721)^0$ MASSOUR FIT uses mass differences measurements listed below to determine the mass $m_{B_1(5721)^0}$.

VALUE (MeV)	DOCUMENT ID
5726.0 ± 1.3 OUR FIT	Error includes scale factor of 1.2.

 $m_{B_1^0} - m_{B^+}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
446.7 ± 1.3 OUR FIT			Error includes scale factor of 1.2.
441.5 ± 2.4 ± 1.3	¹ ABAZOV	07T D0	$p\bar{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
446.2 ^{+1.9+1.0} _{-2.1-1.2}	¹ AALTONEN	09D CDF	Repl. by AALTONEN 14i
¹ Observed in $B_1^0 \rightarrow B^{*+} \pi^-$.			

 $m_{B_1^0} - m_{B^{*+}}$

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
401.4 ± 1.2 OUR FIT				Error includes scale factor of 1.2.
402.8 ± 1.1 OUR AVERAGE				
403.4 ± 0.7 ± 1.5	35K	² AAIJ	15AB LHCB	pp at 7, 8 TeV
402.3 ± 0.9 ^{+1.1} _{-1.2}		³ AALTONEN	14i CDF	$p\bar{p}$ at 1.96 TeV
² AAIJ 15AB reports $[m_{B_1^0} - m_{B^+}] - (m_{B^{*+}} - m_{B^+}) - m_{\pi^-} = 263.9 \pm 0.7 \pm 1.4$ MeV which we adjust by the π^- mass and $(m_{B^{*+}} - m_{B^+}) = 45.01 \pm 0.30 \pm 0.23$ MeV. The masses inside the square brackets were measured for each candidate event.				
³ AALTONEN 14i reports $m_{B_1(5721)^0} - m_{B^{*+}} - m_{\pi^-} = 262.7 \pm 0.9+1.1-1.2$ MeV which we adjusted by the π^- mass.				

 $B_1(5721)^0$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
27.5 ± 3.4 OUR AVERAGE				Error includes scale factor of 1.1.
30.1 ± 1.5 ± 3.5	35k	AAIJ	15AB LHCB	pp at 7, 8 TeV
23 ± 3 ± 4		AALTONEN	14i CDF	$p\bar{p}$ at 1.96 TeV

 $B_1(5721)^0$ DECAY MODES

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

$B_1(5721)^0$ BRANCHING RATIOS

$\Gamma(B^{*+}\pi^-)/\Gamma_{\text{total}}$				Γ_1/Γ
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
seen	35K	AAIJ	15AB LHCb	$p\bar{p}$ at 7, 8 TeV
dominant		AALTONEN	09D CDF	$p\bar{p}$ at 1.96 TeV
dominant		⁴ ABAZOV	07T D0	$p\bar{p}$ at 1.96 TeV

⁴ Observed in $B_1^0 \rightarrow B^{*+}\pi^-$ with $B^{*+} \rightarrow B^+\gamma$ and $B^+ \rightarrow J/\psi\pi^+$.

 $B_1(5721)^0$ REFERENCES

AAIJ	15AB	JHEP 1504 024	R. Aaij <i>et al.</i>	(LHCb Collab.)
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.)