NODE=M183

$B_1(5721)^0$

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

Quantum numbers shown are quark-model predictions.

NODE=M183

$B_1(5721)^0$ MASS

NODE=M183M

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

NODE=M183M

VALUE (MeV)	DOCUMENT ID
5726.1±1.3 OUR FIT	Error includes scale factor of 1.2.

NODE=M183M

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

NODE=M183DM

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	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$446.2^{+1.9}_{-2.1}{}^{+1.0}_{-1.2}$	[1] AALTONEN	09D	CDF	Repl. by AALTONEN 14I

NODE=M183DM

[1] Observed in $B_1^0 \to B^{*+}\pi^-$.

NODE=M183DM;LINKAGE=AA

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

NODE=M183DM2

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	[1] AAIJ	15AB	LHCB	pp at 7, 8 TeV
$402.3\pm0.9^{+1.1}_{-1.2}$		[2] AALTONEN	14I	CDF	$p\overline{p}$ at 1.96 TeV

NODE=M183DM2

[1] 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.

NODE=M183DM2;LINKAGE=B

[2] 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.

NODE=M183DM2;LINKAGE=AA

$B_1(5721)^0$ WIDTH

NODE=M183W

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	$p\overline{p}$ at 1.96 TeV

NODE=M183W

$B_1(5721)^0$ DECAY MODES

NODE=M183215;NODE=M183

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

DESIG=1

$B_1(5721)^0$ BRANCHING RATIOS

NODE=M183220

$\Gamma(B^{*+}\pi^-)/\Gamma_{total}$ Γ_1/Γ

NODE=M183R01
NODE=M183R01

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	35K	AAIJ	15AB	LHCB	pp at 7, 8 TeV
seen		AALTONEN	09D	CDF	$p\overline{p}$ at 1.96 TeV
seen		[1] ABAZOV	07T	D0	$p\overline{p}$ at 1.96 TeV

[1] Observed in $B_1^0 \to B^{*+}\pi^-$ with $B^{*+} \to B^+\gamma$ and $B^+ \to J/\psi\pi^+$.

NODE=M183R01;LINKAGE=AB

$B_1(5721)^0$ REFERENCES

NODE=M183

AAIJ	15AB	JHEP 1504 024	R. Aaij *et al.*	(LHCb Collab.)
AALTONEN	14I	PR D90 012013	T. Aaltonen *et al.*	(CDF Collab.)
AALTONEN	09D	PRL 102 102003	T. Aaltonen *et al.*	(CDF Collab.)
ABAZOV	07T	PRL 99 172001	V.M. Abazov *et al.*	(D0 Collab.)

REFID=56628
REFID=56029
REFID=52700
REFID=52014