

$X(5568)^\pm$

$$I(J^P) = ?(??)$$

OMITTED FROM SUMMARY TABLE

Seen as a peak in the $B_s \pi^\pm$ mass spectrum with a significance of more than 3σ by ABAZOV 16E in inclusive $p\bar{p}$ collisions at 1.96 TeV. Not seen by AAIJ 16A1. Needs confirmation.

$X(5568)^\pm$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$5567.8 \pm 2.9^{+0.9}_{-1.9}$	133	¹ ABAZOV	16E D0	$p\bar{p} \rightarrow B_s \pi^\pm X$

¹ Assumes $X(5568)^\pm \rightarrow B_s \pi^\pm$ decay. If $X(5568)^\pm \rightarrow B_s^* \pi^\pm$ decay is assumed, the mass shifts upward by 49 MeV.

$X(5568)^\pm$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$21.9 \pm 6.4^{+5.0}_{-2.5}$	133	ABAZOV	16E D0	$p\bar{p} \rightarrow B_s \pi^\pm X$

$X(5568)^\pm$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad B_s \pi^\pm$	seen

$X(5568)^\pm$ BRANCHING RATIOS

$\Gamma(B_s \pi^\pm)/\Gamma_{\text{total}}$	Γ_1/Γ			
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
not seen		¹ AAIJ	16A1 LHCB	$pp \rightarrow B_s^0 \pi^\pm X$
seen	133	² ABAZOV	16E D0	$p\bar{p} \rightarrow B_s \pi^\pm X$

¹ Not seen in 3 fb^{-1} of pp collision data at $\sqrt{s} = 7$ and 8 TeV in a scan over the $X(5568)$ mass and width, with B_s mesons reconstructed in decays to $D_s^- \pi^+$ or $J/\psi \phi$. An upper limit on a rate of X production relative to inclusive B_s production at $p_T(B_s) > 10$ GeV/c is less than 2.1% at 90% CL.

² Seen in $p\bar{p}$ collisions at 1.96 TeV at a rate of $(8.6 \pm 1.9 \pm 1.4)\%$ relative to inclusive B_s production in the kinematic region $10 < p_T(B_s) < 30$ GeV/c, with B_s mesons reconstructed in decays to $J/\psi \phi$. An alternative possibility, $X(5568)^\pm \rightarrow B_s^* \pi^\pm$ with a missing γ , could not be ruled out.

$X(5568)^\pm$ REFERENCES

AAIJ	16A1	PRL 117 152003	R. Aaij <i>et al.</i>	(LHCb Collab.)
ABAZOV	16E	PRL 117 022003	V.M. Abazov <i>et al.</i>	(D0 Collab.)