

$P_{c\bar{c}}(4380)^+$

$I(J^P) = \frac{1}{2}(??)$ Status: *

OMITTED FROM SUMMARY TABLE
Was $P_c(4380)^+$.

A resonance seen in $\Lambda_b^0 \rightarrow P_c^+ K^-$, then $P_c \rightarrow J/\psi p$, with a significance of 9 standard deviations. The $J/\psi p$ quark content is $uudc\bar{c}$, a pentaquark. See also the $P_c(4450)^+$. In the best amplitude fit, the two states have opposite parity, one having $J = 3/2$, the other $J = 5/2$.

Extraction of the pentaquark signals requires some understanding of the dominant $K^- p$ background. AAIJ 15P used a model-dependent approach. AAIJ 16AG reanalyzed the data making minimal assumptions about the $K^- p$ background, and thus confirmed the strong significance of the pentaquark signals.

$P_{c\bar{c}}(4380)^+$ MASS				
VALUE (MeV)	DOCUMENT ID	TECN	COMMENT	
$4380 \pm 8 \pm 29$	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\bar{c}}(4380)^+$ WIDTH				
VALUE (MeV)	DOCUMENT ID	TECN	COMMENT	
$205 \pm 18 \pm 86$	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\bar{c}}(4380)^+$ DECAY MODES				
Mode		Fraction (Γ_i/Γ)		
Γ_1	$J/\psi p$	seen		

$P_{c\bar{c}}(4380)^+$ BRANCHING RATIOS				
$\Gamma(J/\psi p)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	Γ_1/Γ	
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\bar{c}}(4380)^+$ REFERENCES				
AAIJ	16AG	PRL 117 082002	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	15P	PRL 115 072001	R. Aaij <i>et al.</i>	(LHCb Collab.)