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

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

OMITTED FROM SUMMARY TABLE

Was $P_c(4380)^+$.

A resonance seen in $\Lambda_b^0 \to P_c^+ K^-$, then $P_c \to J/\psi p$, with a significance of 9 standard deviations. The $J/\psi p$ quark content is $uudc\overline{c}$, 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.

$P_{c\overline{c}}(4380)^+$ MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
4380±8±29	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\overline{c}}(4380)^+$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
205±18±86	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\overline{c}}(4380)^+$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$J/\psi p$	seen

$P_{c\overline{c}}(4380)^+$ BRANCHING RATIOS

$\Gamma(J/\psi p)/\Gamma_{\text{total}}$ **Γ_1/Γ**

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AAIJ	15P	LHCB	pp at 7, 8 TeV

$P_{c\overline{c}}(4380)^+$ REFERENCES

AAIJ	16AG	PRL 117 082002	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	15P	PRL 115 072001	R. Aaij *et al.*	(LHCb Collab.)