

# $P_c(4380)^+$

Status: \*

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.

## $P_c(4380)^+$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b><math>4380 \pm 8 \pm 29</math></b>	AAIJ	15P	LHCB $pp$ at 7, 8 TeV

## $P_c(4380)^+$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b><math>205 \pm 18 \pm 86</math></b>	AAIJ	15P	LHCB $pp$ at 7, 8 TeV

## $P_c(4380)^+$ DECAY MODES

Mode	Fraction ( $\Gamma_j/\Gamma$ )
$\Gamma_1$ $J/\psi p$	seen

## $P_c(4380)^+$ BRANCHING RATIOS

$\Gamma(J/\psi p)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
<b>seen</b>	AAIJ	15P	LHCB $pp$ at 7, 8 TeV

## $P_c(4380)^+$ 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.)