

**$R_{c0}(4240)$** 

$$I^G(J^{PC}) = 1^+(0^{--})$$

$I, G, C$  need confirmation.

OMITTED FROM SUMMARY TABLE

was  $X(4240)^\pm$ 

Properties incompatible with a  $q\bar{q}$  structure (exotic state). See the review on non- $q\bar{q}$  states.

Spin and parity assignment  $J^P = 0^-$  is favored over  $1^-, 2^-$ , and  $2^+$  by  $8\sigma$  and over  $1^+$  by  $1\sigma$ , according to the four-dimensional amplitude analysis of AAIJ 14AG.

 **$R_{c0}(4240)$  MASS**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$4239 \pm 18^{+45}_{-10}$	<sup>1</sup> AAIJ	14AG LHCB	$B^0 \rightarrow K^+ \pi^- \psi(2S)$

<sup>1</sup>From a 4-dimensional analysis when a second, lower mass resonance is allowed in the  $Z_c(4430)$  fit, with significance  $6\sigma$  including systematic variations.

 **$R_{c0}(4240)$  WIDTH**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$220 \pm 47^{+108}_{-74}$	<sup>1</sup> AAIJ	14AG LHCB	$B^0 \rightarrow K^+ \pi^- \psi(2S)$

<sup>1</sup>From a 4-dimensional analysis when a second, lower mass resonance is allowed in the  $Z_c(4430)$  fit, with significance  $6\sigma$  including systematic variations.

 **$R_{c0}(4240)$  DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \pi^- \psi(2S)$	seen

 **$R_{c0}(4240)$  BRANCHING RATIOS**

$\Gamma(\pi^- \psi(2S))/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
seen	<sup>1</sup> AAIJ	14AG LHCB	$B^0 \rightarrow K^+ \pi^- \psi(2S)$

<sup>1</sup>From a 4-dimensional analysis when a second, lower mass resonance is allowed in the  $Z_c(4430)$  fit. No partial branching fraction quoted.

 **$R_{c0}(4240)$  REFERENCES**

AAIJ	14AG PRL 112 222002	R. Aaij <i>et al.</i>	(LHCb Collab.)
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