

# BOTTOM, CHARMED MESONS

## ( $B = C = \pm 1$ )

$$B_c^+ = c\bar{b}, B_c^- = \bar{c}b, \quad \text{similarly for } B_c^{*'}\text{'s}$$

$B_c^\pm$

$$I(J^P) = 0(0^-)$$

$I, J, P$  need confirmation.

Quantum numbers shown are quark-model predictions.

$$\text{Mass } m = 6.286 \pm 0.005 \text{ GeV}$$

$$\text{Mean life } \tau = (0.46_{-0.16}^{+0.18}) \times 10^{-12} \text{ s}$$

$B_c^-$  modes are charge conjugates of the modes below.

$B_c^+$ DECAY MODES $\times B(\bar{b} \rightarrow B_c)$	Fraction ( $\Gamma_i/\Gamma$ )	Confidence level	$p$ (MeV/c)
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The following quantities are not pure branching ratios; rather the fraction  $\Gamma_i/\Gamma \times B(\bar{b} \rightarrow B_c)$ .

$J/\psi(1S)\ell^+\nu_\ell$ anything	$(5.2_{-2.1}^{+2.4}) \times 10^{-5}$		—
$J/\psi(1S)\pi^+$	$< 8.2 \times 10^{-5}$	90%	2377
$J/\psi(1S)\pi^+\pi^+\pi^-$	$< 5.7 \times 10^{-4}$	90%	2357
$J/\psi(1S)a_1(1260)$	$< 1.2 \times 10^{-3}$	90%	2177
$D^*(2010)^+\bar{D}^0$	$< 6.2 \times 10^{-3}$	90%	2474