

# Journal Club

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Measurement of the form factor  
shape for the semileptonic decay

$$\Lambda_b^0 \rightarrow \Lambda_c^+ \mu^- \bar{\nu}_\mu$$

A measurement of the shape of the Isgur-Wise function for the decay  $\Lambda_b^0 \rightarrow \Lambda_c^+ \mu^- \bar{\nu}_\mu$  is presented. It is performed with a sample of  $\Lambda_b^0$  semileptonic decays in  $pp$  collisions with an integrated luminosity of  $3 \text{ fb}^{-1}$ . The decay  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \mu^- \bar{\nu}_\mu$  is used to isolate the semileptonic decay  $\Lambda_b^0 \rightarrow \Lambda_c^+ \mu^- \bar{\nu}_\mu$  and determine the spectrum  $dN/dw$  ( $\Lambda_b^0 \rightarrow \Lambda_c^+ \mu^- \bar{\nu}_\mu$ ), where  $w$  is the invariant scalar  $v^\mu v'_\mu$ , namely the inner product of the 4-velocities of the the initial and final state heavy baryons.

**Friday,  
Oct. 2, 2015  
4:00pm**

**120 Physical Sciences  
Bldg.**

