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 fb\(^{-1}\). The decay \( \Lambda_c^0 \rightarrow \Lambda_c^+ \pi^- \bar{\nu}_\mu \) 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 \( w = \sqrt{p_i^2} \), namely the inner product of the 4-velocities of the initial and final state heavy baryons.