

Calibration of the tagging efficiency for c -jets at the ATLAS experiment

Hannah Arnold for the ATLAS collaboration

Albert-Ludwigs-Universität Freiburg

The top-charm frontier at the LHC

January 14-17, 2014

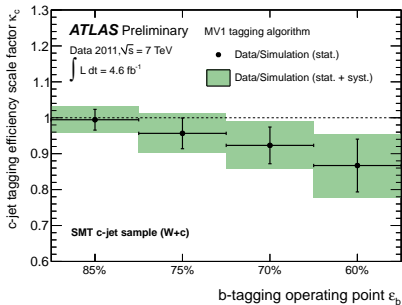
CERN

References:

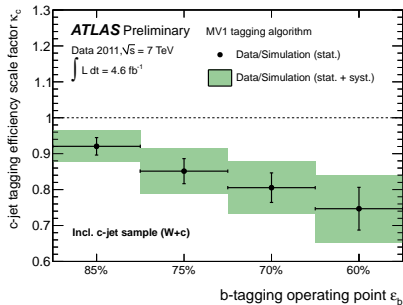
$W+c$ calibration: ATLAS-CONF-2013-109

D^{*+} calibration: ATLAS-CONF-2012-039,

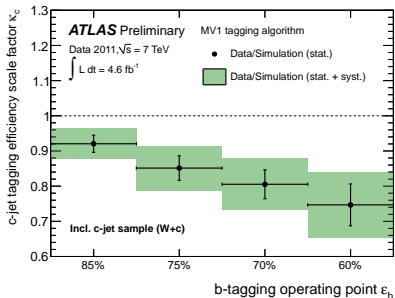
<https://twiki.cern.ch/twiki/bin/view/AtlasPublic/FlavourTaggingPublicResultsCollisionData>



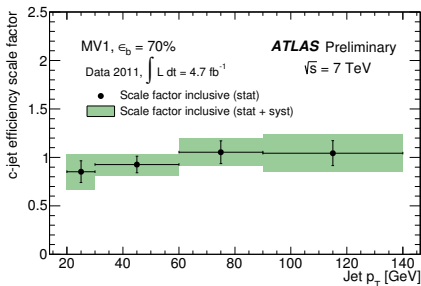
(a) for SMT c jets



(b) for inclusive c jets



(a) $W+c$ calibration



(b) D^{*+} calibration

NOTE:

- $W+c$ calibration: ε_c vs ε_b
 - D^{*+} calibration: ε_c (MV1, $\varepsilon_b=70\%$) vs p_T^{jet}
 - p_T^{jet} spectra are very different
- compare $W+c$ ε_c for MV1, $\varepsilon_b=70\%$, to D^{*+} ε_c in the first two p_T^{jet} bins

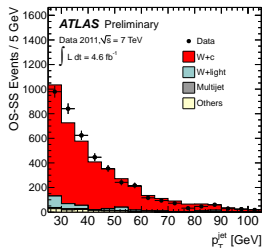
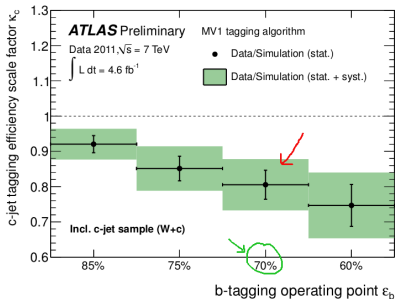
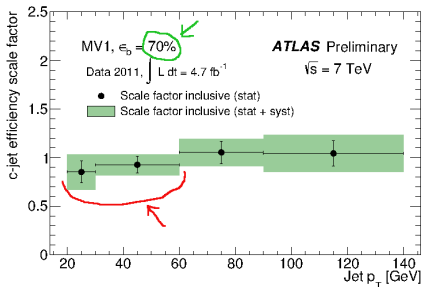


Figure 1: SMT jet p_T spectrum.



(a) $W+c$ calibration



(b) D^{*+} calibration

NOTE:

- $W+c$ calibration: ε_c vs ε_b
 - D^{*+} calibration: ε_c (MV1, $\varepsilon_b=70\%$) vs p_T^{jet}
 - p_T^{jet} spectra are very different
- compare $W+c$ ε_c for MV1, $\varepsilon_b=70\%$, to D^{*+} ε_c in the first two p_T^{jet} bins

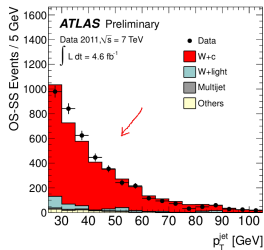
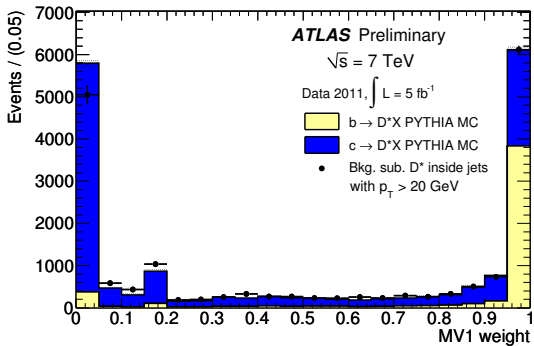
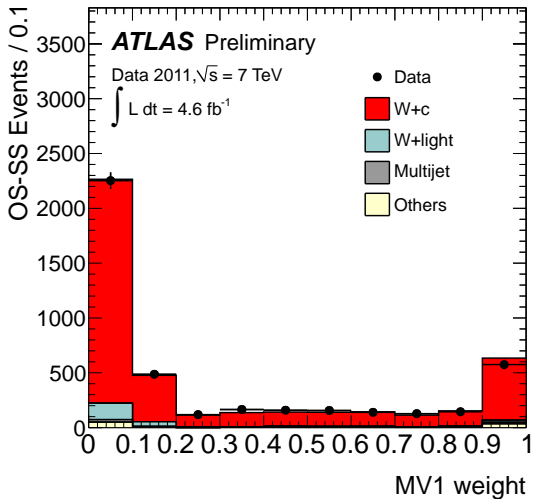
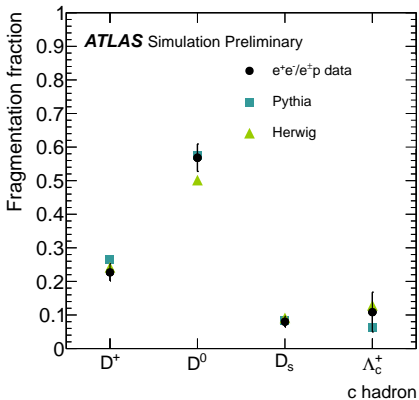


Figure 2: SMT jet p_T spectrum.

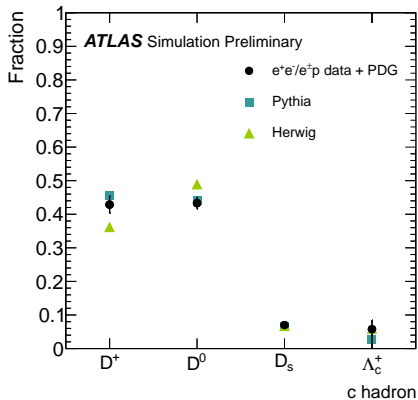
BACKUP







(a) c hadron fractions in an inclusive c -jet sample



(b) c hadron fractions in a SMT c -jet sample