Correct
Incorrect

Distribution of BDT-reconstructed Events

non-DC pixel   DC pixel

BDT score
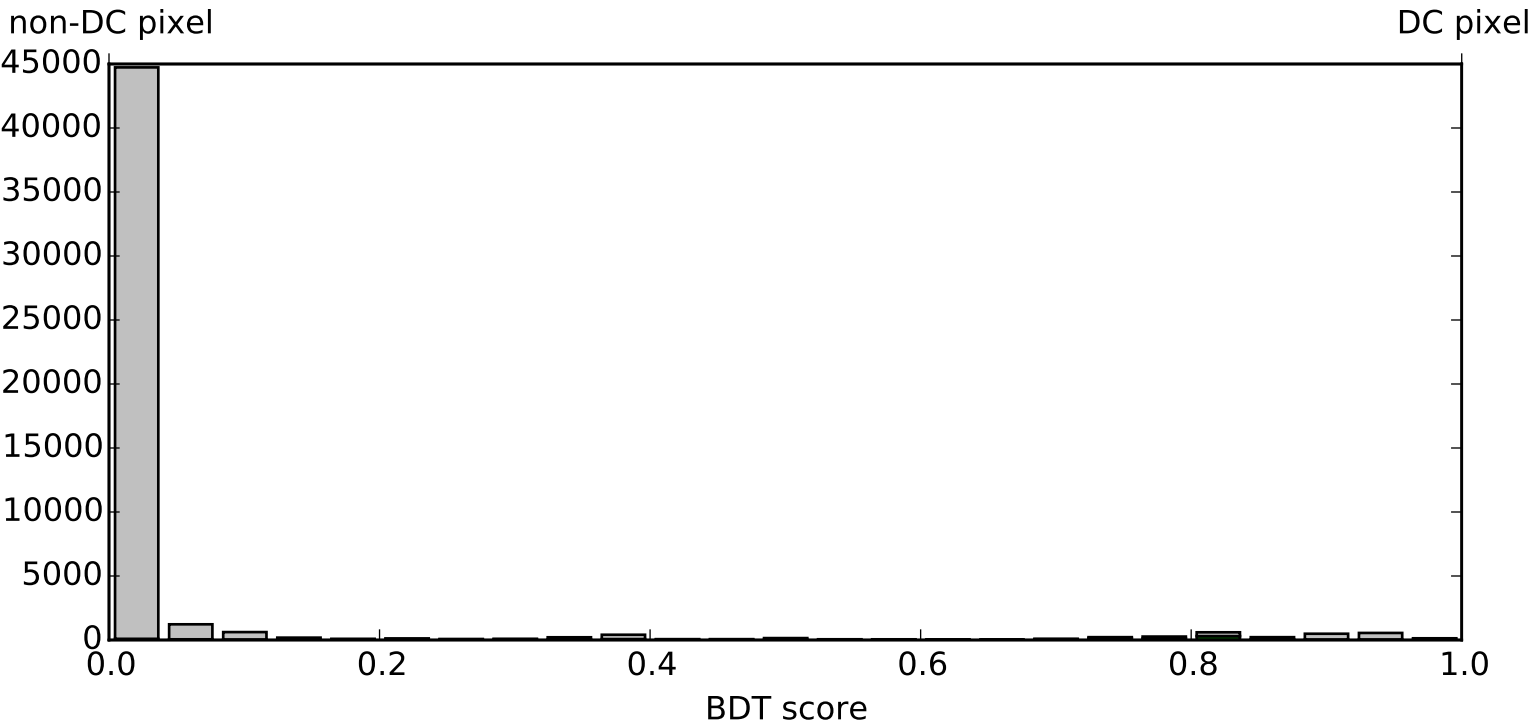
Signal in pure DC pixel without shower

DC pixel intensity
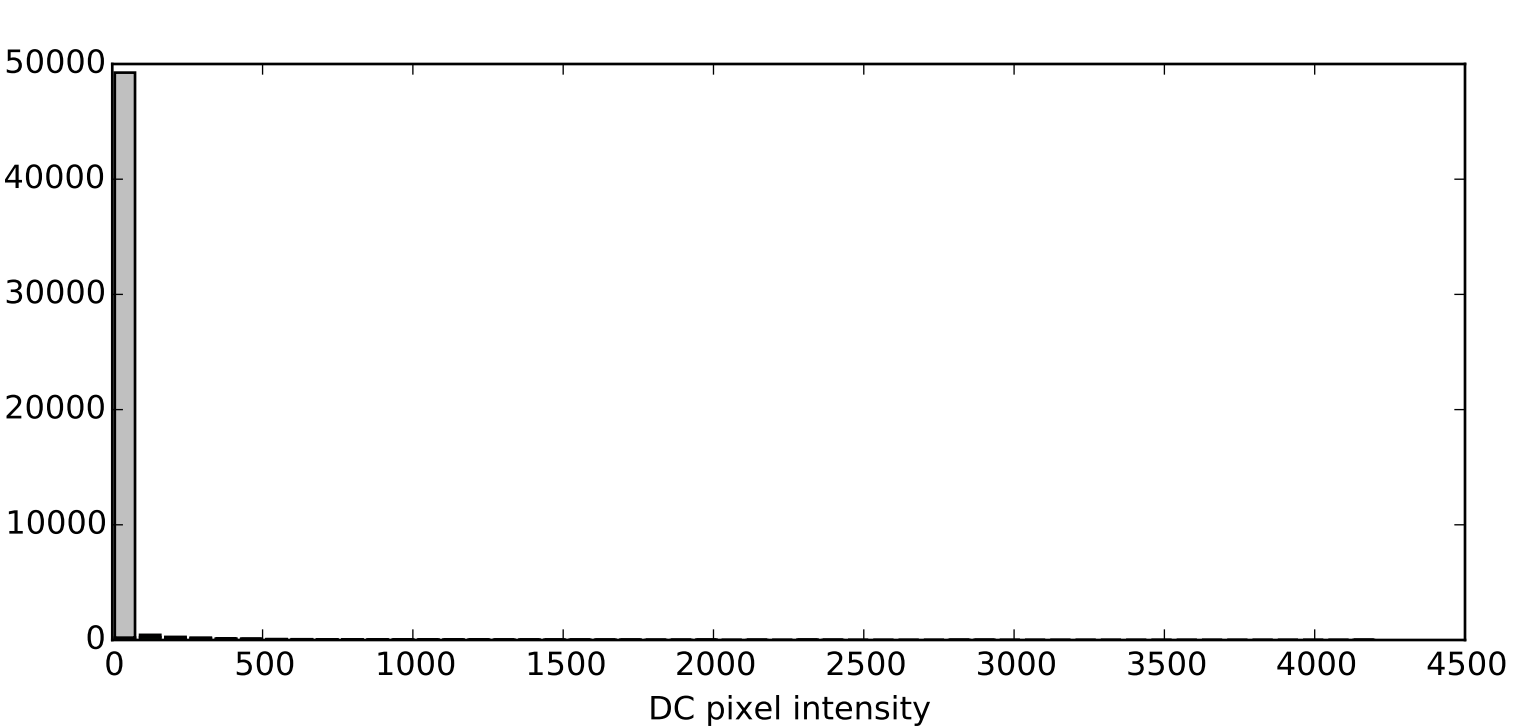
Distribution of BDT-reconstructed Events, after Score and Signal cuts

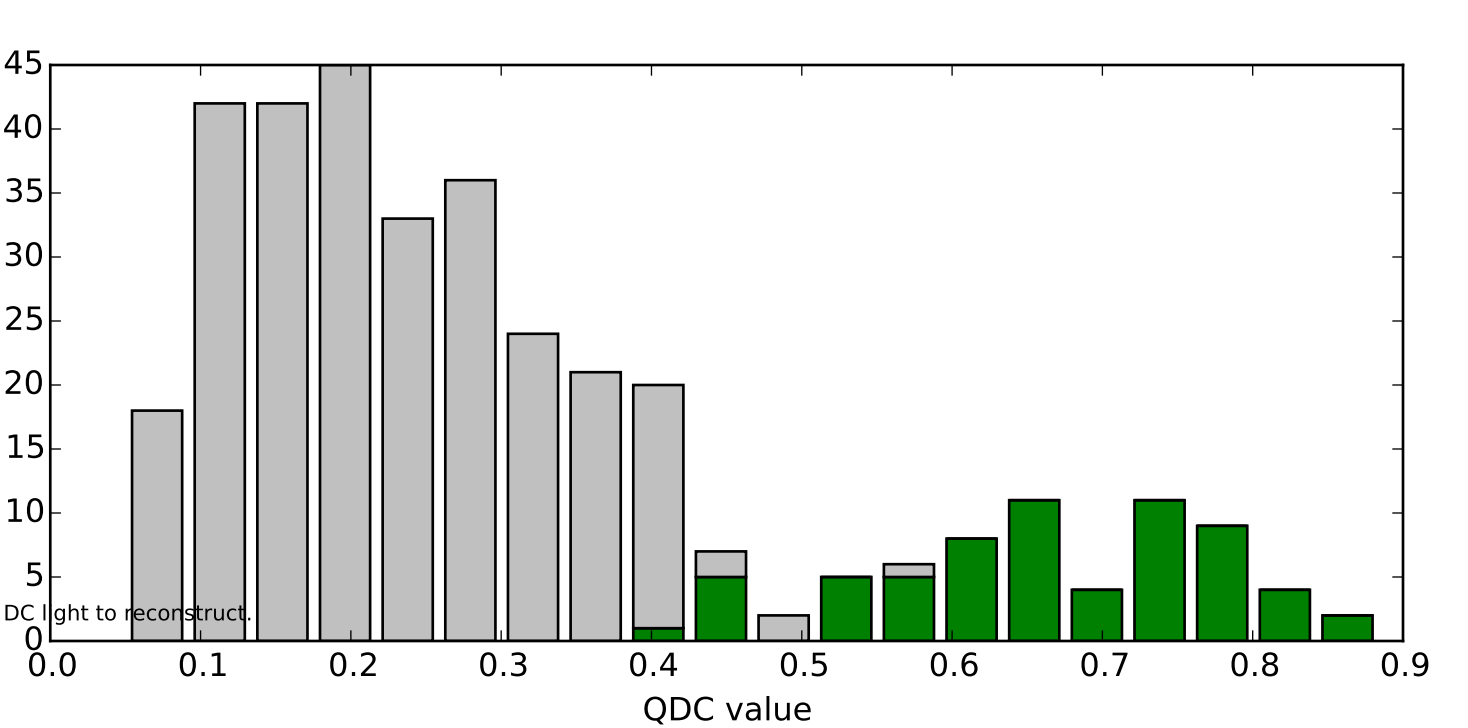non-DC pixel   DC pixel
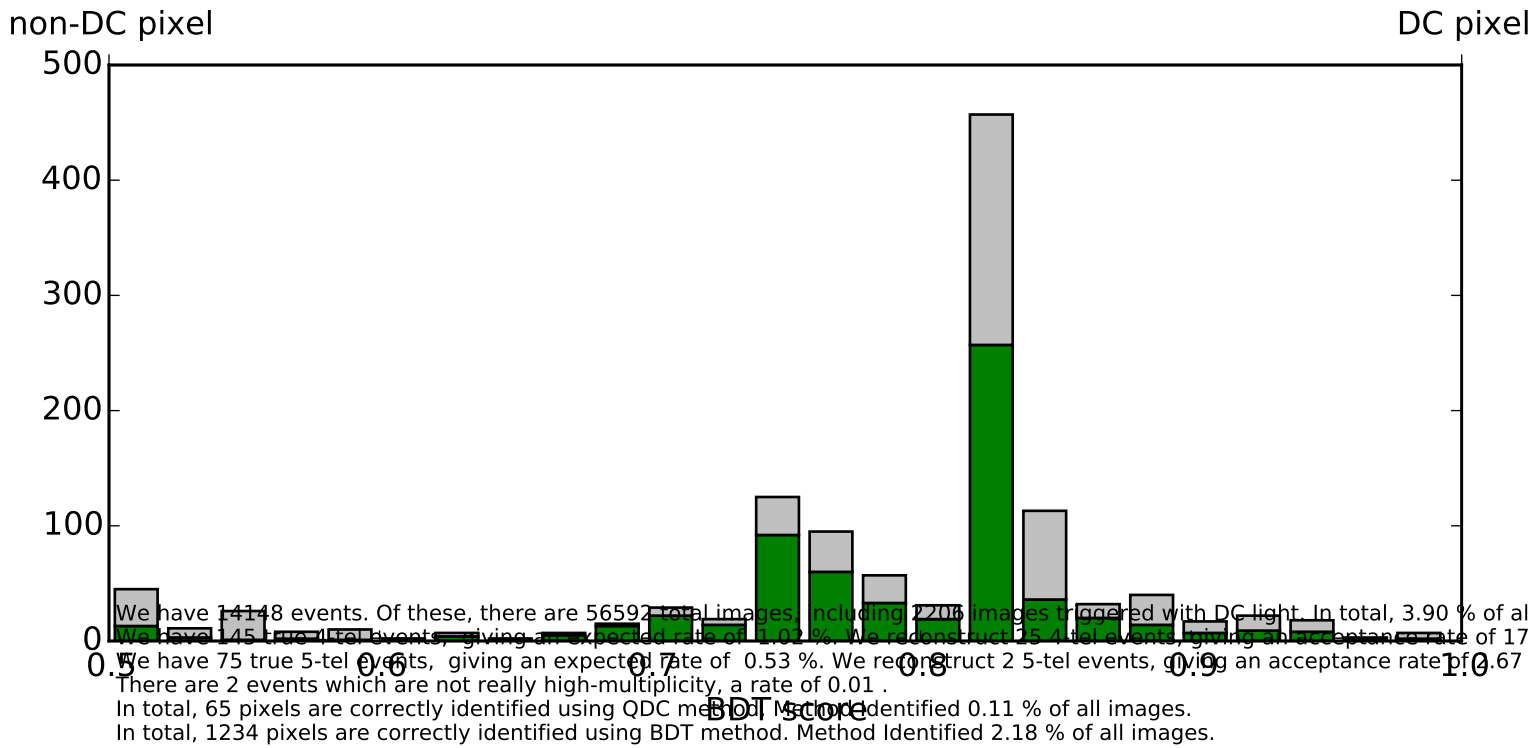
We have 14148 events. Of these, there are 56592 total images, including 2206 images triggered with DC-light. In total, 3.90 % of all images have DC light to reconstruct.
We have 145 true 4-tel events, giving an expected rate of 1.02 %. We reconstruct 26 4-tel events, giving an acceptance rate of 17.24 %.
We have 75 true 5-tel events, giving an expected rate of 0.53 %. We reconstruct 2 5-tel events, giving an acceptance rate of 2.67 %.
There are 2 events which are not really high-multiplicity, a rate of 0.01 .
In total, 65 pixels are correctly identified using QDC method. Method Identified 0.11 % of all images.
In total, 1234 pixels are correctly identified using BDT method. Method Identified 2.18 % of all images.

Our QDC cut requires QDC < 0.14 log(Itot / 161 cos(theta)), leaving 350 images.
Of these, 65 are correctly identified images.
Successful ID rate after cut is 18.57 %
Fraction of pixels correctly identified is 0.11 %
Fraction of pixels incorrectly identified is 0.50 %
Additionally requiring multiplicity > 3 , we have 0 images .
Of these, 0 are correctly identified images.

Our BDT cut requires Signal Probability > 0.5 , we have 2858 images.
Of these, 801 are correctly identified images.
Successful ID rate after cut is 28.03 %
Fraction of pixels correctly identified is 1.42 %
Fraction of pixels incorrectly identified is 3.63 %
Additionally requiring signal > 150 , we have 1198 images.
Of these, 640 are correctly identified images.
Successful ID rate after cut is 53.42 %
Fraction of pixels correctly identified is 1.13 %
Fraction of pixels incorrectly identified is 0.99 %
Additionally requiring multiplicity > 3 we have 107 images .
Of these, 84 are correctly identified images.
Successful ID rate after cut is 78.50 %
Fraction of pixels correctly identified is 0.15 %
Fraction of pixels incorrectly identified is 0.04 %

Additionally requiring Aspect ratio > 0.4 we have 95 images .
Of these, 76 are correctly identified images.
Successful ID rate after cut is 80.00 %
Fraction of pixels correctly identified is 0.13 %
Fraction of pixels incorrectly identified is 0.03 %

BDT score

Distribution of QDC-reconstructed Events

QDC value

Distribution of BDT-reconstructed Events, after cuts

Candidate signal