



Hawc Meeting, September 26th

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The quest for better cuts

- ▶ To compare data sets I plotted the distribution of pinc and compactness for my bkg events and signal events after initial cuts.
 - ▶ Doing this made me realize I could manually input a cut value and get out a Qfactor from this data set.
- ▶ Also made a piece of code that would calculate the Qfactor of a given bin on whatever cuts you wanted.
 - ▶ I looked at fhit bin 9 ehat bin 8 where there was a large discrepancy between my and john's cut value (particularly $u = \log(1/\text{compactness})$).
 - ▶ I had a cut of about $u = 0.26$ while john had $u = -0.12$. Using this new piece of code I found his cut value actually gave a higher Qfactor than mine
 - ▶ This lead me to believe that possibly I wasn't trying enough cuts
 - ▶ Switched from optimizing from a 100x100 cuts to 1000x1000.

Plots

- ▶ I started running the code last night and was hoping it would finish by now.
- ▶ Something appears to be wrong with the umd cluster so I couldn't see if the cuts actually improved to be closer to john's.

