

# Jet Meeting Recap

Spin Meeting

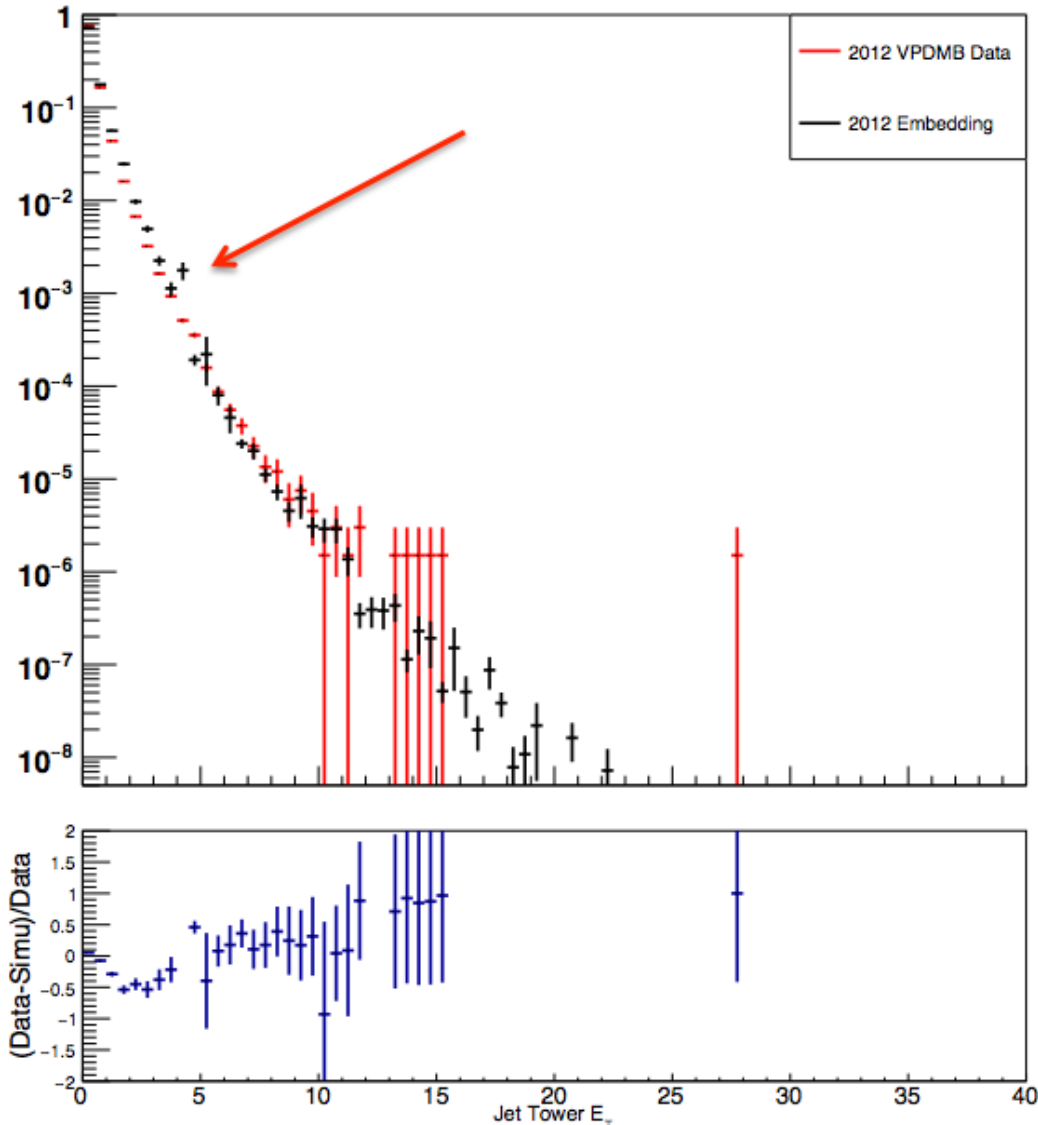
03-28-2016

Grant Webb

# Agenda Items

- PPV Discussion: Zilong Chang, Danny Olvitt, Carl Gagliardi
- Update on Run12 pp200 Embedding, BEMC E<sub>T</sub> Issues: Kevin Adkins

# Jet Tower $E_T$



- ★ The discrepancy is still present
- ★ There's clearly still a hot tower in the data
- ★ I have started an additional hot tower QA, but have not yet masked them out and re-made jets
- ★ There's a really weird bump in the spectrum around 4.5 GeV, aside from the discrepancy (big red arrow)
- ★ This seems to be a statistical fluctuation in the highly weighted partonic  $p_T$  2-3 bin on the next slide

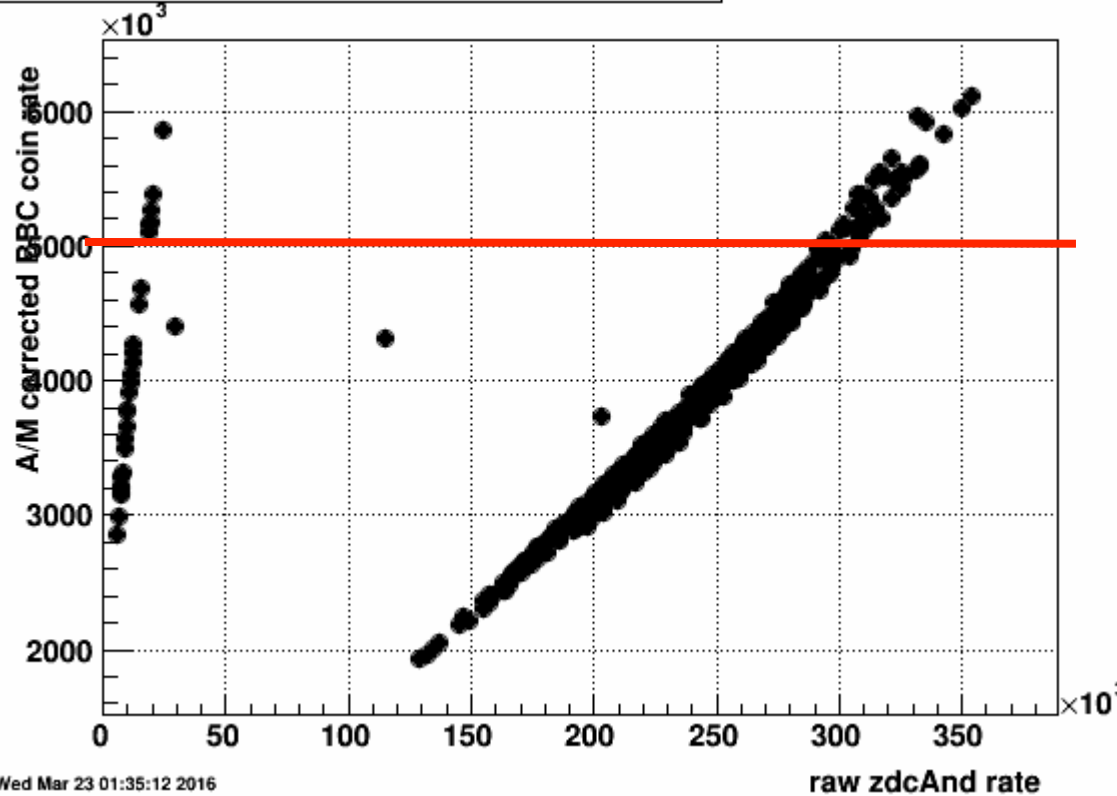
# Suggestions for Run 12 Embedding

- The bump on the Tower Et plot we know comes from the partonic 2-3 bin. There's one bin that has 9 counts in it, and those come in with a HUGE weight. Determine whether or not all of these events come from the same tower
- If so, see if the tower gain agrees between the data and embedding.
- Fit the ADC spectrum coming from the jet towers with power law to see if the data or embedding is diverging from the fit. This pinpoints where the problem is coming from (i.e. the dip down to -0.5 in the comparison plot on the bottom panel) between  $E_t=1-5$  GeV.

# A/M corrected rate from scalar vs. RICH scalar

run12.final.v0.list.sca.bbc.zdcAnd.txt

❖ On X-axis: average raw zdc And rate from the start of the run till the end of the run



$$(310/380)^2 = 0.67$$

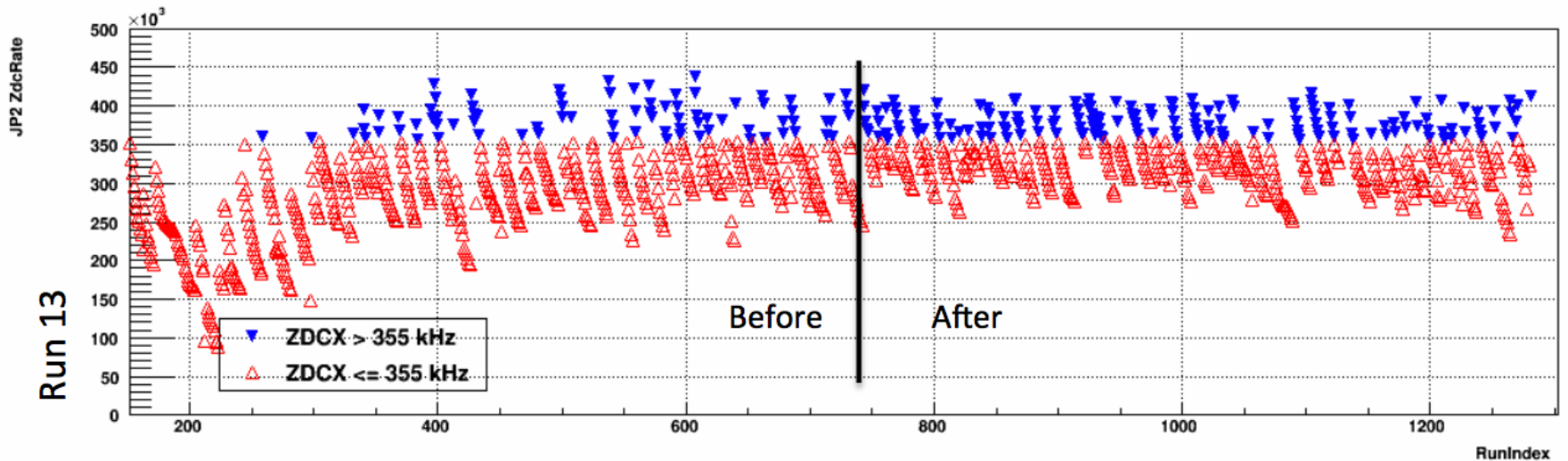
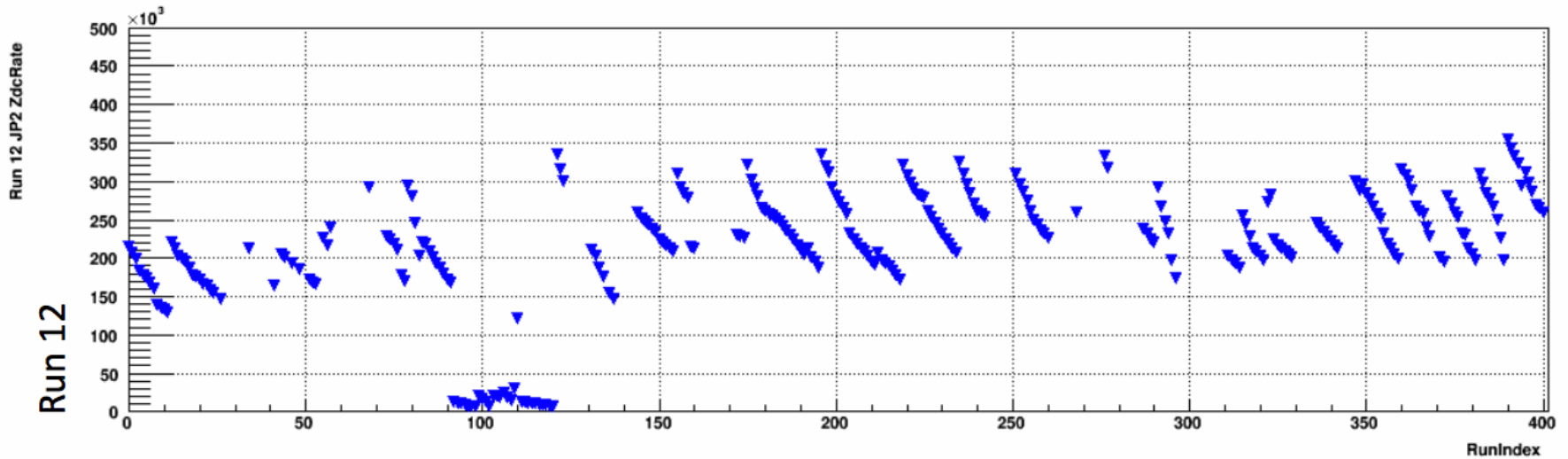
$$(260/380)^2 = 0.47$$

Wed Mar 23 01:35:12 2016

A/M corrected rate used in my jet study to select good runs  
Re-inforce it for the final analysis due to lost efficiency in high rate collisions

[http://people.physics.tamu.edu/changzl/directory/STAR/01\\_2013\\_PPV/ppvstudy.html](http://people.physics.tamu.edu/changzl/directory/STAR/01_2013_PPV/ppvstudy.html)

# Run 12 and Run 13 Luminosities



# Default PPV and Modified PPV

- Default PPV :  $N_{\text{fit}}/N_{\text{poss}} = 0.7$ ,  $\text{DCA}_{xy} < 3\text{cm}$
- Modified PPV:  $N_{\text{fit}}/N_{\text{poss}} = 0.51$ ,  $\text{DCA}_{xy} < 3\text{cm}$
- Looked at 3 run numbers from low to high luminosity
- The default setting on PPV reconstructs a significantly larger amount of bad vertices at high luminosities.