A first look at jets in 900 GeV runs 123596–123615

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Fermilab

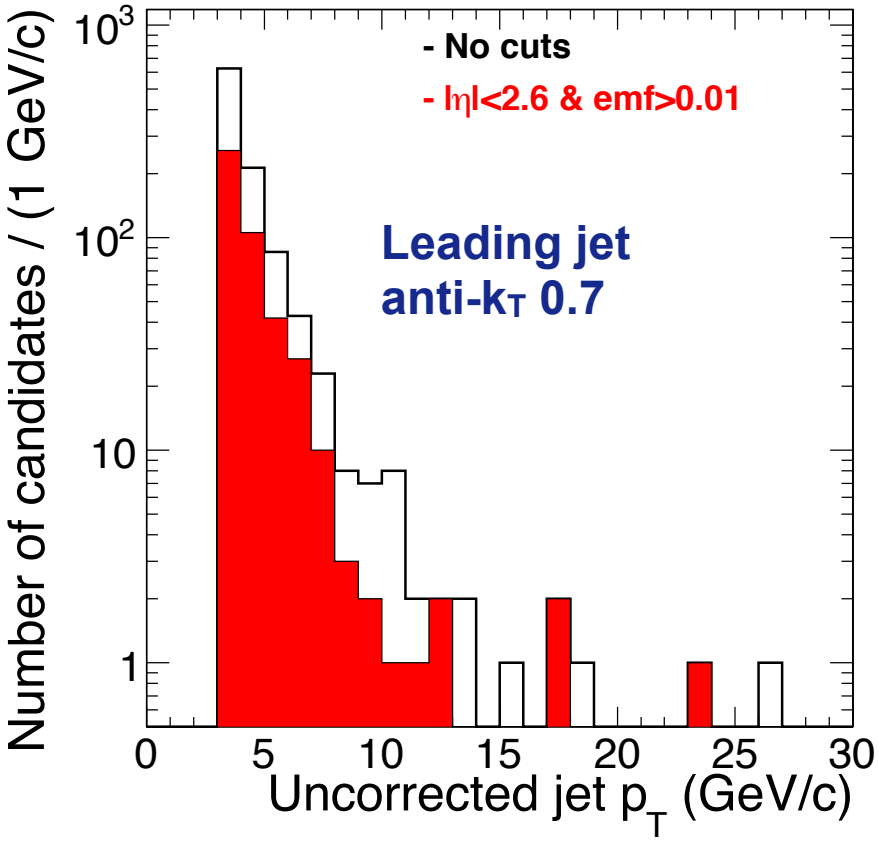
Data sample

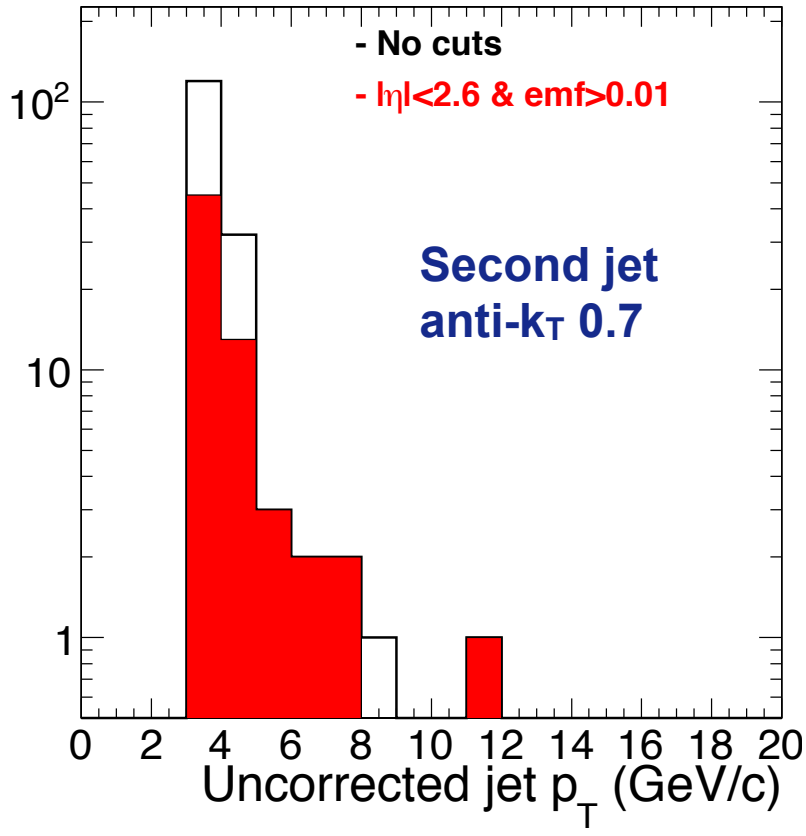
- This preliminary analysis uses run 123596--123615
  - Min Bias data at $\sqrt{s}$ = 900 GeV
  - B-field on, tracker TOB on, stable beam
- All events are required to pass BCS technical triggers

Purpose: take a look at jet p_T , η, ϕ spectra.

p_T distribution of uncorrected jets

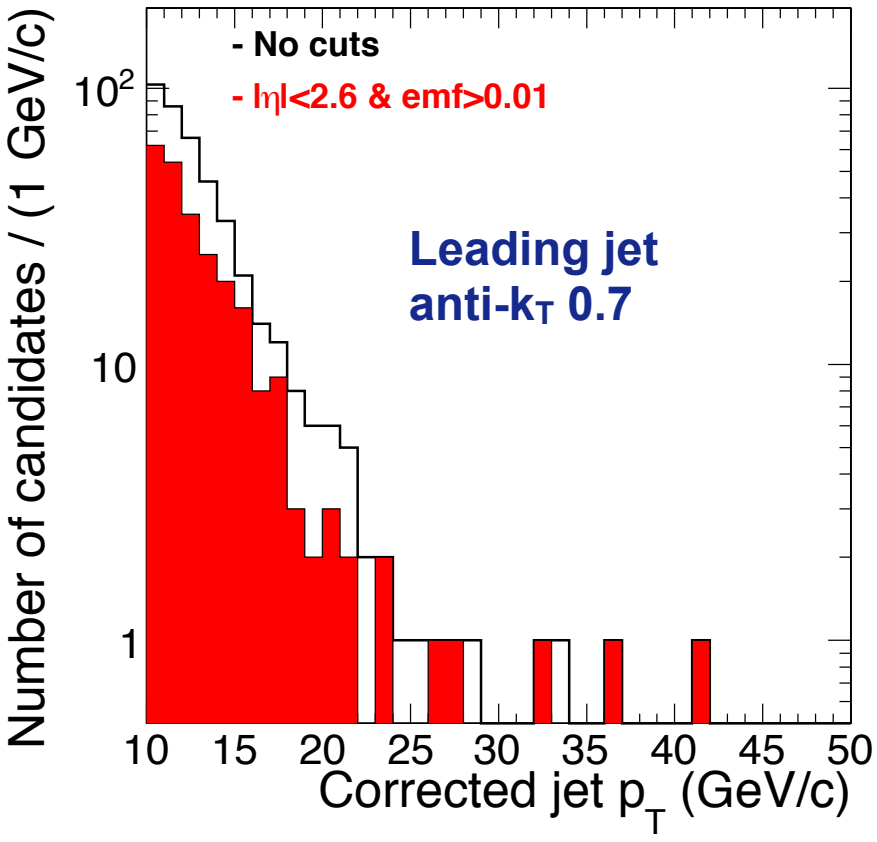
p_T is uncorrected

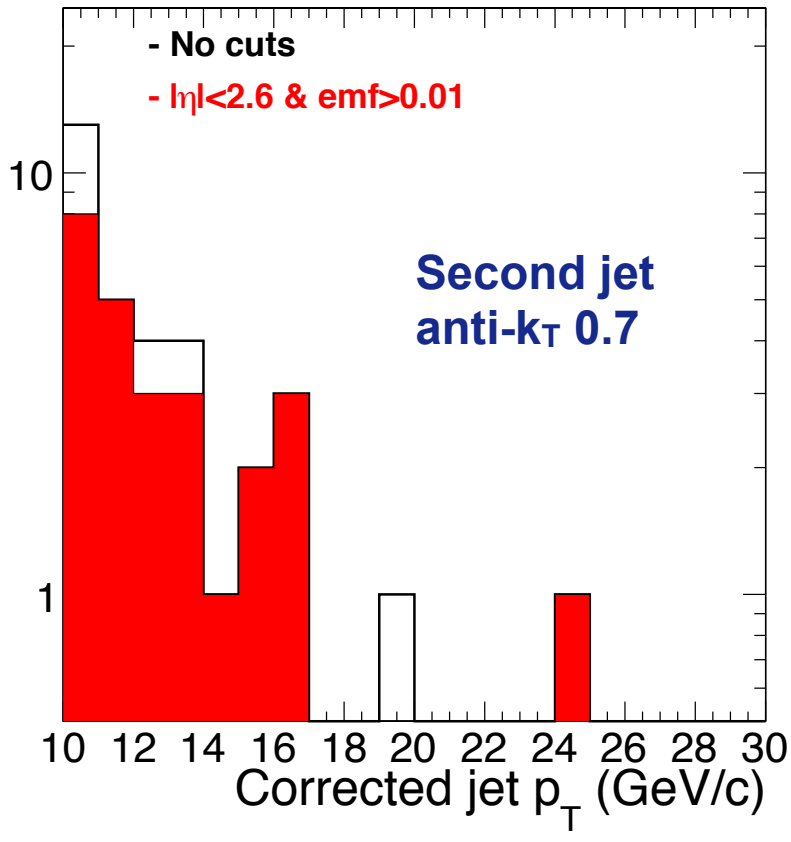




The uncorrected leading jet p_T distribution goes up to about 23 GeV/c and the second jet p_T up to 11 GeV/c.

p_T distribution of the corrected jets

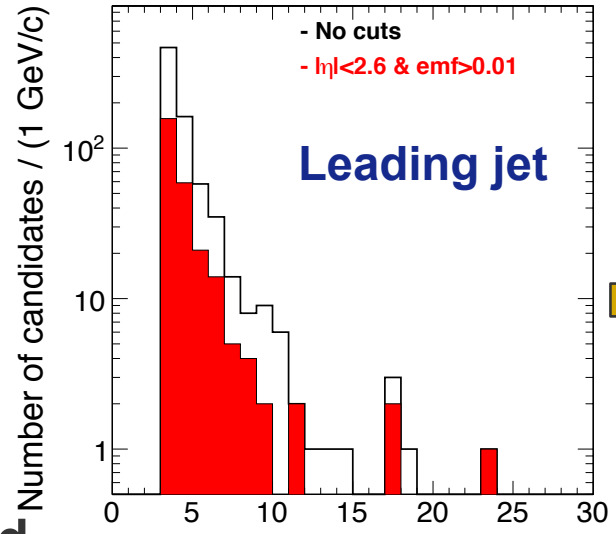


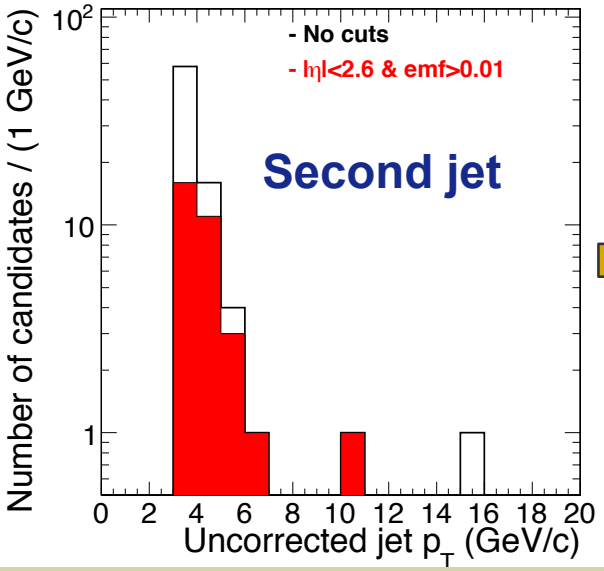


The corrected leading jet p_T distribution goes up to about 41 GeV/c and the second jet p_T up to 24 GeV/c.

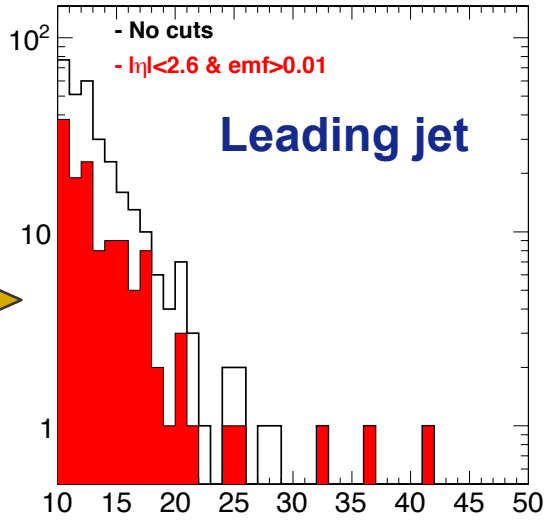
p_T distributions for anti-kT 0.5 algorithm jets

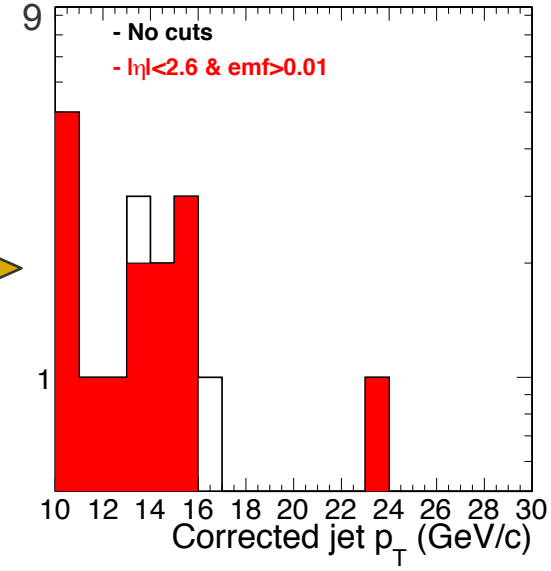
uncorrected



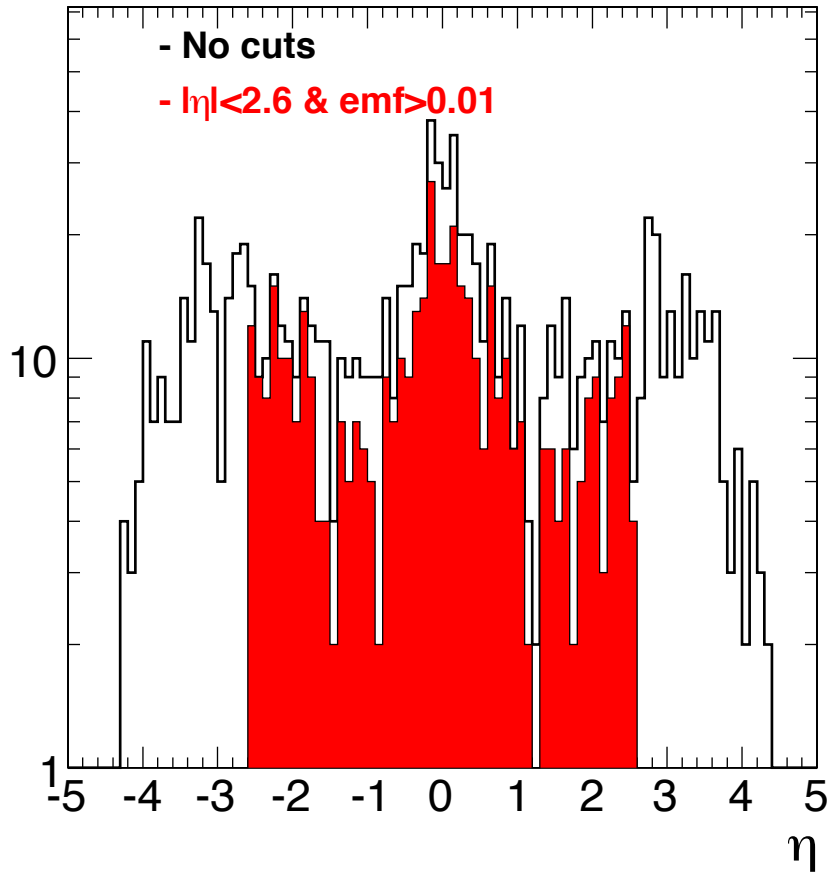


corrected

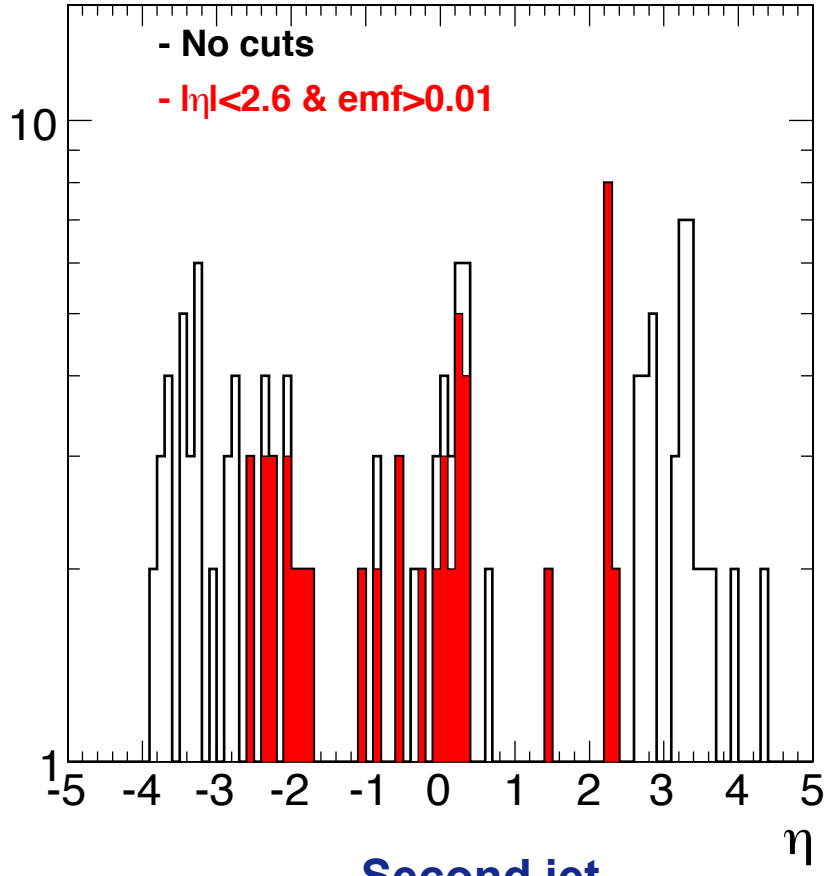




η distributions of the leading and second jets

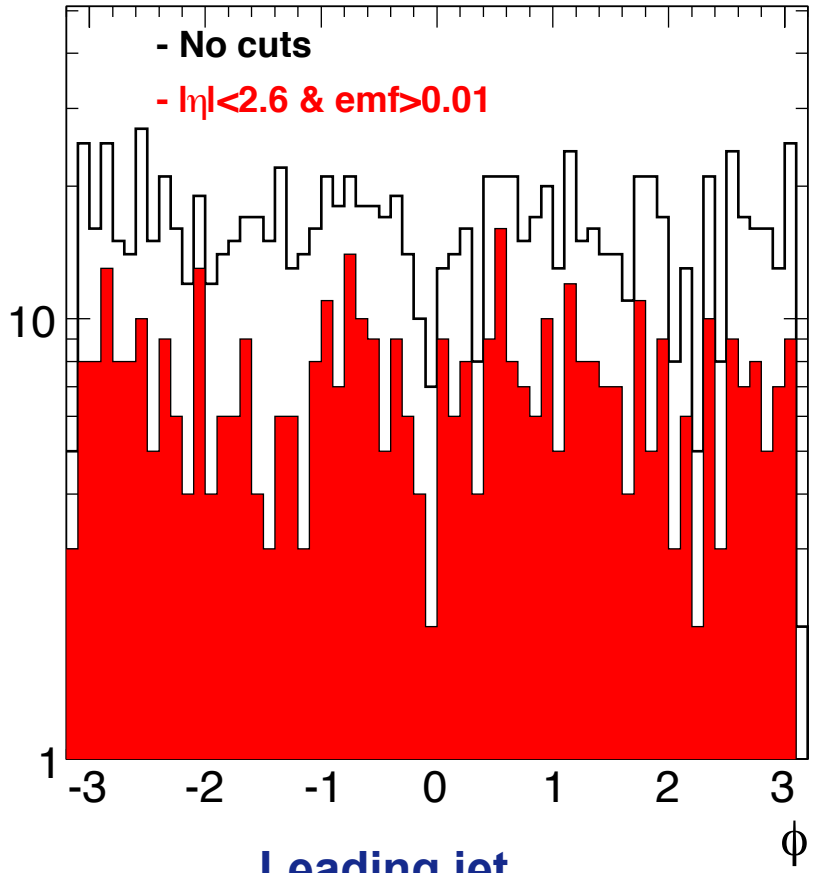


Leading jet anti-k_T 0.7

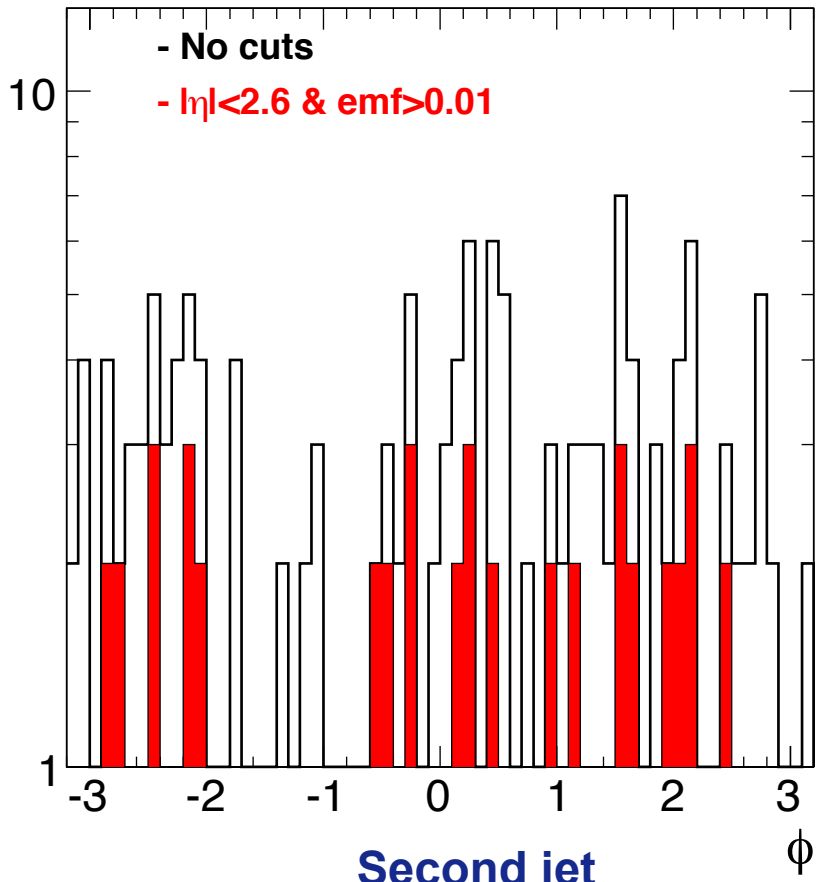


Second jet anti-k_T 0.7

ϕ distributions of the leading and second jets



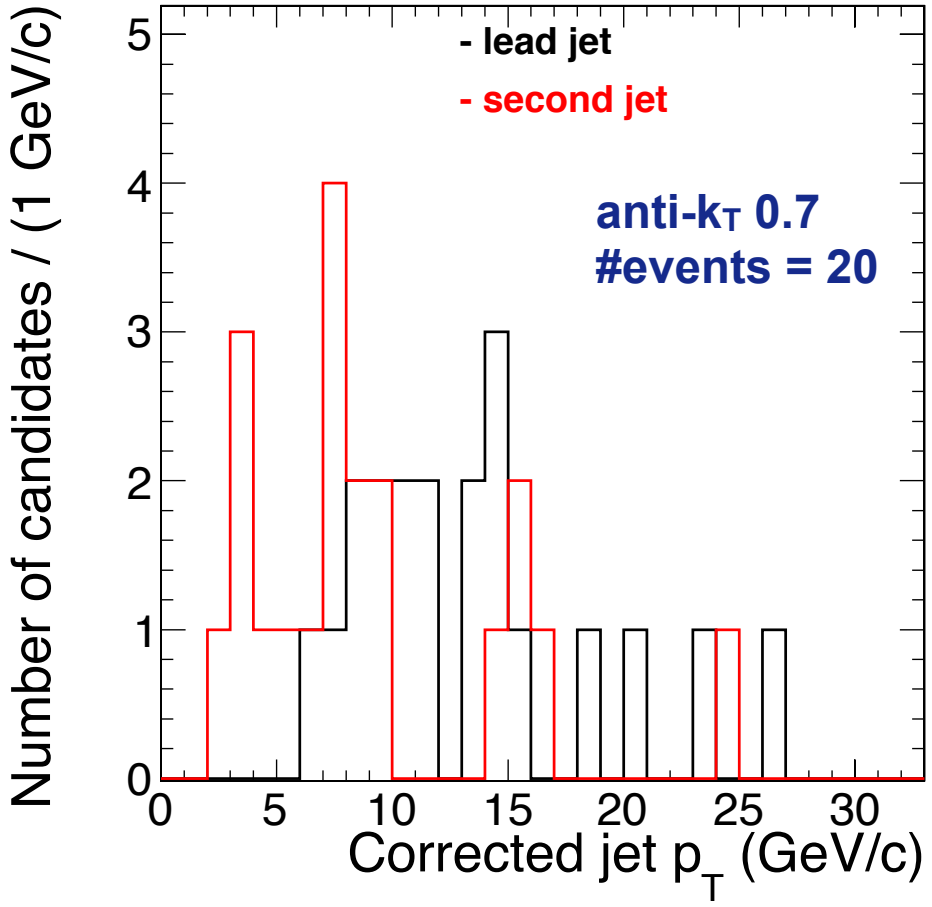
Leading jet anti-k_T 0.7

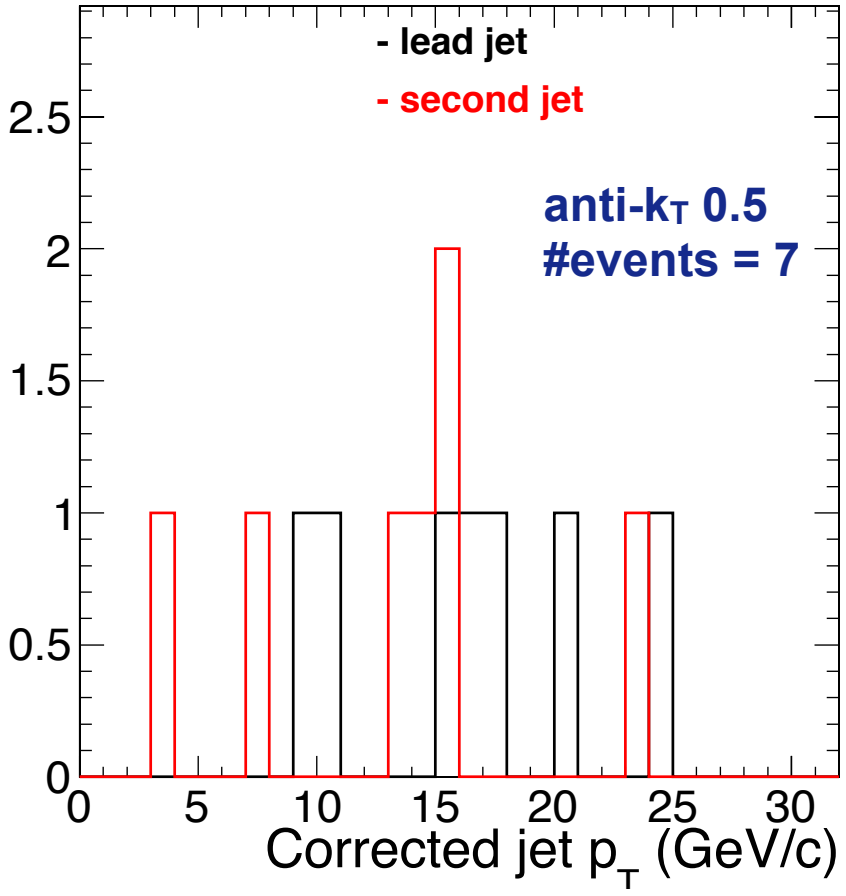


Second jet anti-k_T 0.7

The distributions look flat, as expected.

We have got a few dijet events now !!!





Requiring p_T > 10 GeV/c, for both leading and second jets, five dijet candidates survive.

Print out of dijet candidates with p_T>10 GeV/c

	Leading jet						Second jet				
* run*	event*	raw pt*	cor pt *	eta *	phi *	emf *	raw pt *	cor pt *	eta *	phi *	emf *
* 123596 *	267558*	8.30 *	20.09 *	-0.79 *	1.82 *	0.90 *	4.29 *	13.19 *	-0.98 *	-1.09 *	0.52 *
* 123615 *	7692681*	6.81 *	15.64 *	-0.04 *	1.57 *	0.80 *	4.34 *	14.73 *	-1.38 *	-1.60 *	0.62 *
* 123615 *	968397 *	6.09 *	17.03 *	-1.11 *	0.72 *	0.58 *	5.90 *	15.33 *	-0.66 *	-2.14 *	0.05 *
* 123596 *	1488220*	7.89 *	16.06 *	-2.26 *	-0.22 *	0.70 *	6.24 *	15.41 *	-0.45 *	-3.12 *	0.87 *
* 123596 *	6732761*	11.57*	24.14 *	0.27 *	2.48 *	0.50 *	10.54 *	23.07 *	1.94 *	-0.76 *	0.62 *