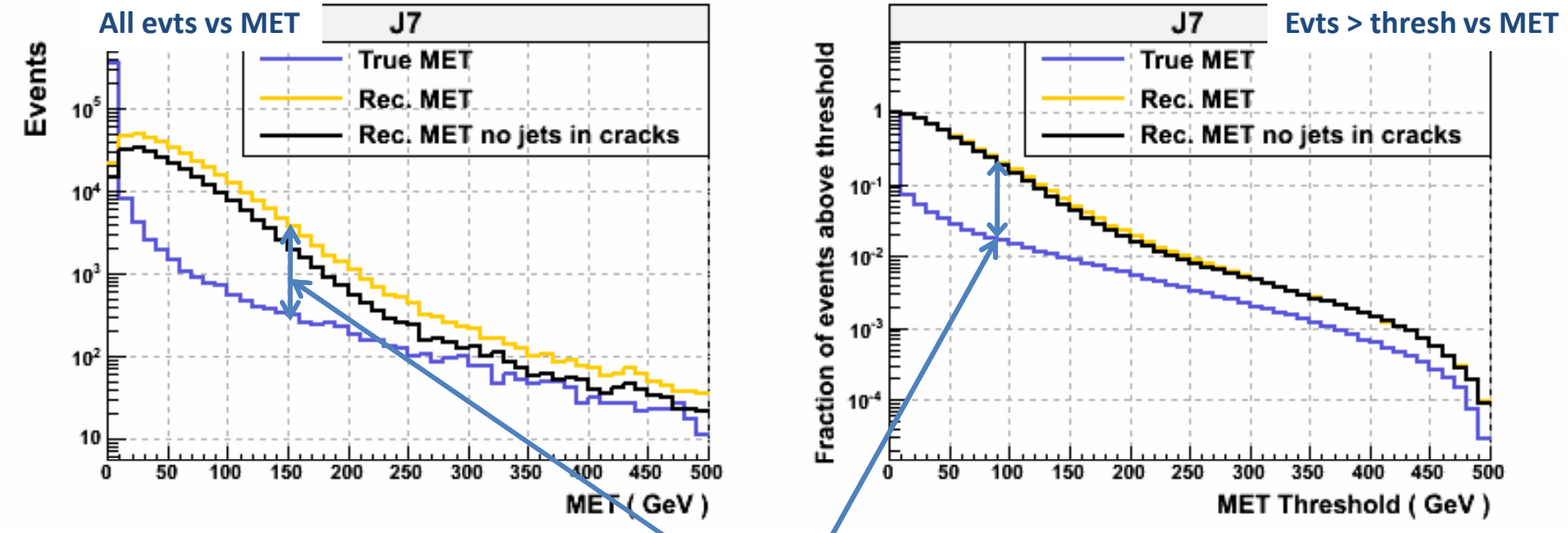
Missing Et tails in the Jx dijet samples

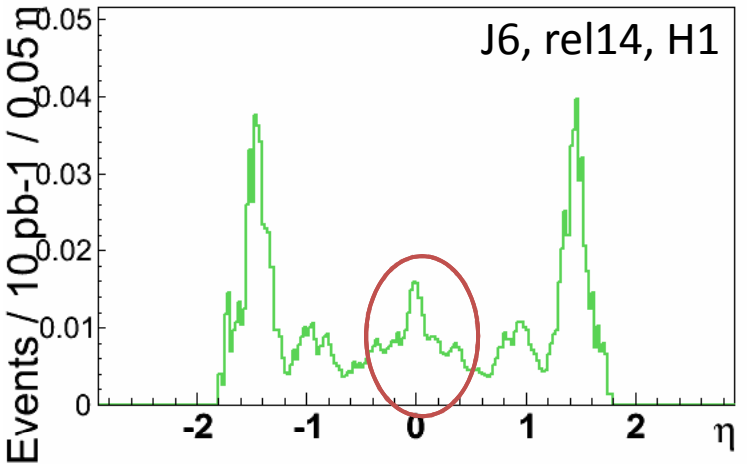


- Investigate difference in these distributions
- Rel 15 DPD samples for this workshop (e344_s479_r635)
- Compare H1 Cone4 topo jets and reference MET to AntiKt4LCTopo jets and LC missing ET

Missing Et tails in the Jx dijet samples

Specifically, this turned into a study of what the peak at eta=0 is

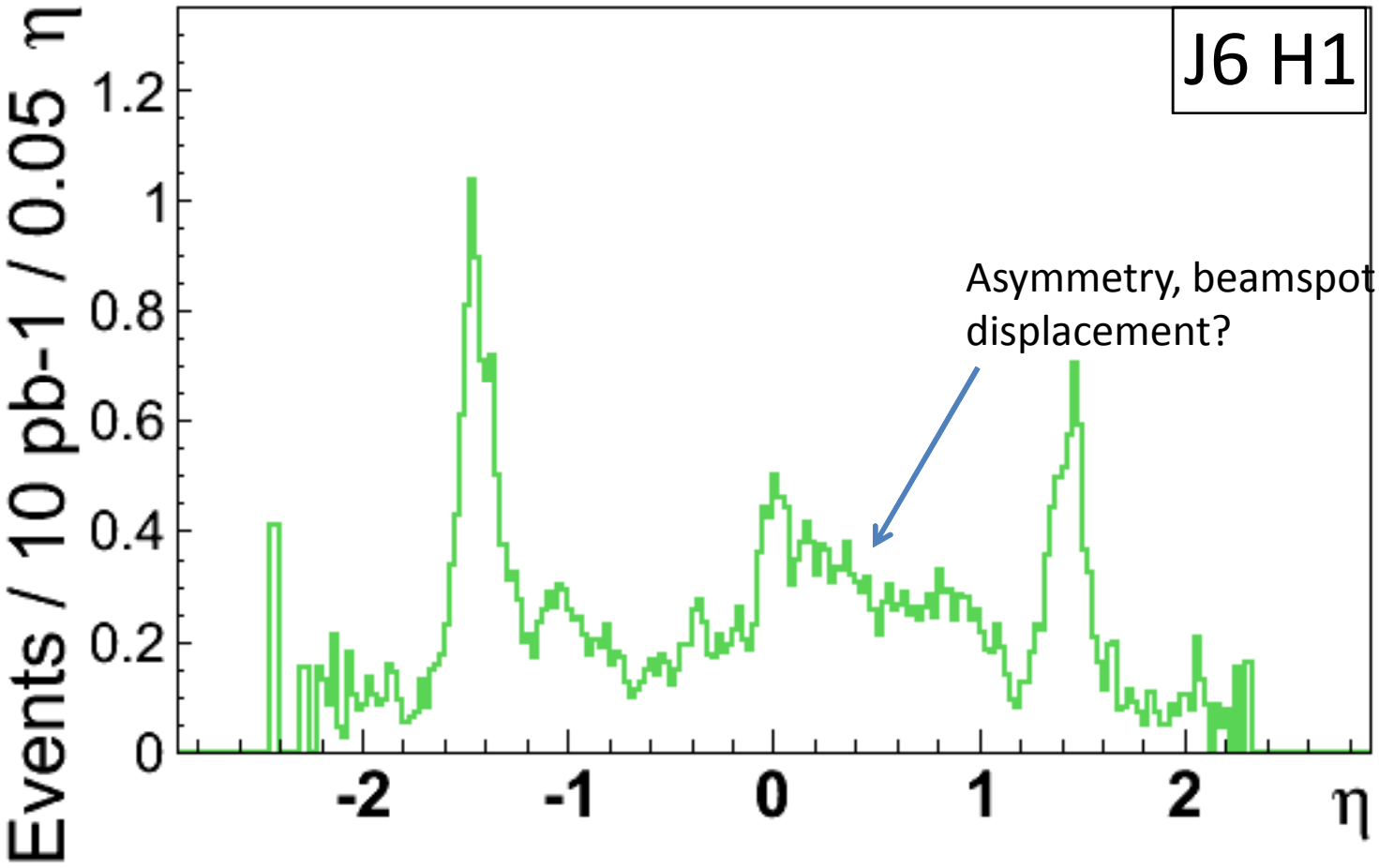
- Eta distribution of sub-leading rec. jet in an event with more than 100 GeV reconstructed missing Et.
- Correct for non-uniform eta distribution of lead jets – peak heights are comparable
- Only reconstructed quantities used, can do the same with data!



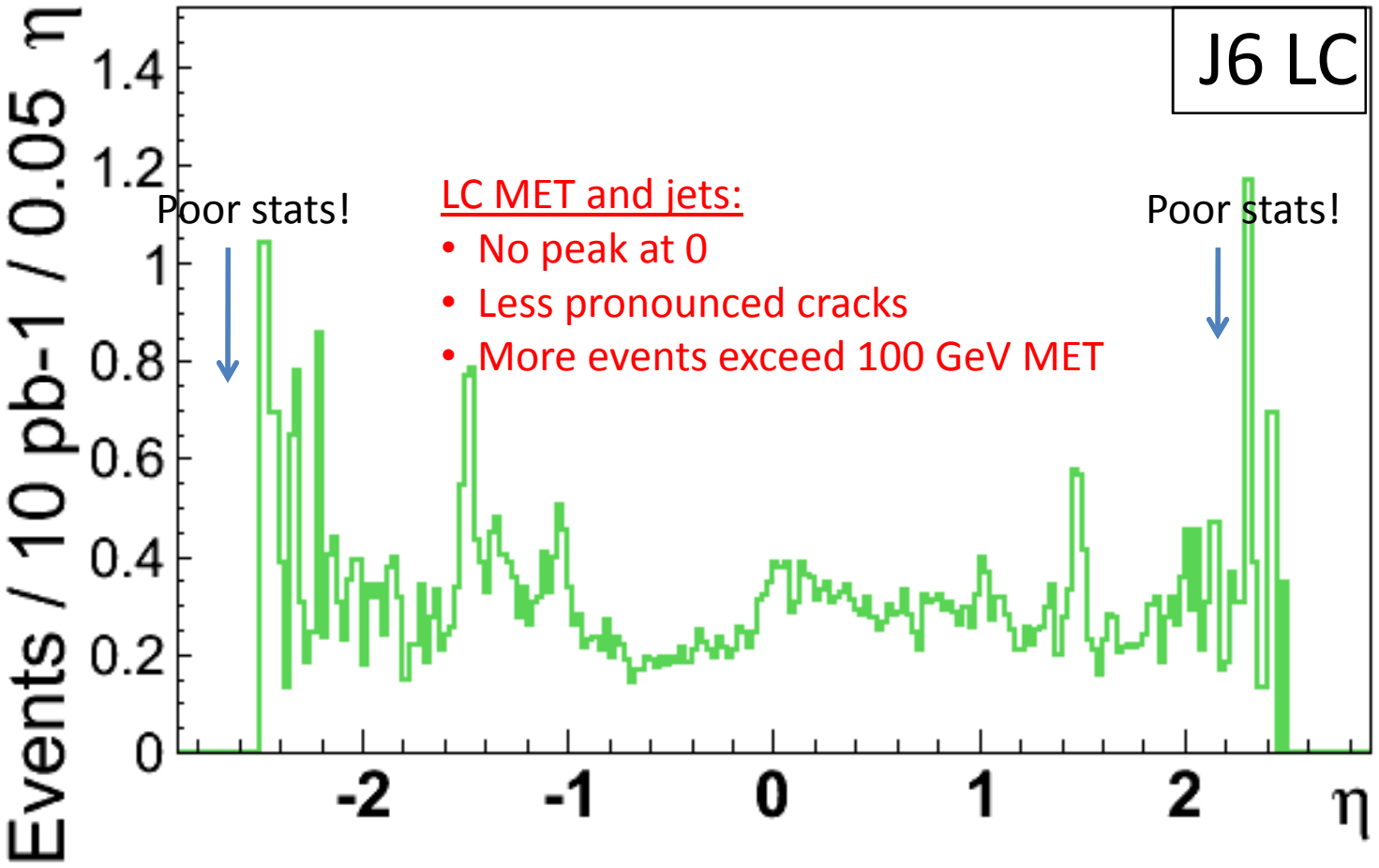
Summary 2 June was:

- MET tails in dijet samples map out our inefficient regions
- Not clear where the peak at eta=0 comes from
- Jets largely underestimated in these events
- Went through various possible explanations:
  - LAr gap of a few mm at eta=0
  - Variation in Tile sampling fraction
  - Missed muons
  - Punch throughs
  - Weirdly shaped jets
  - Non-isolated jets as opposed to the isolated ones for which the calibration was done
- Better access to calibration weights and signal states in rel15 and comparison with LC jets hopefully helps

Jet eta distribution, rel15 samples

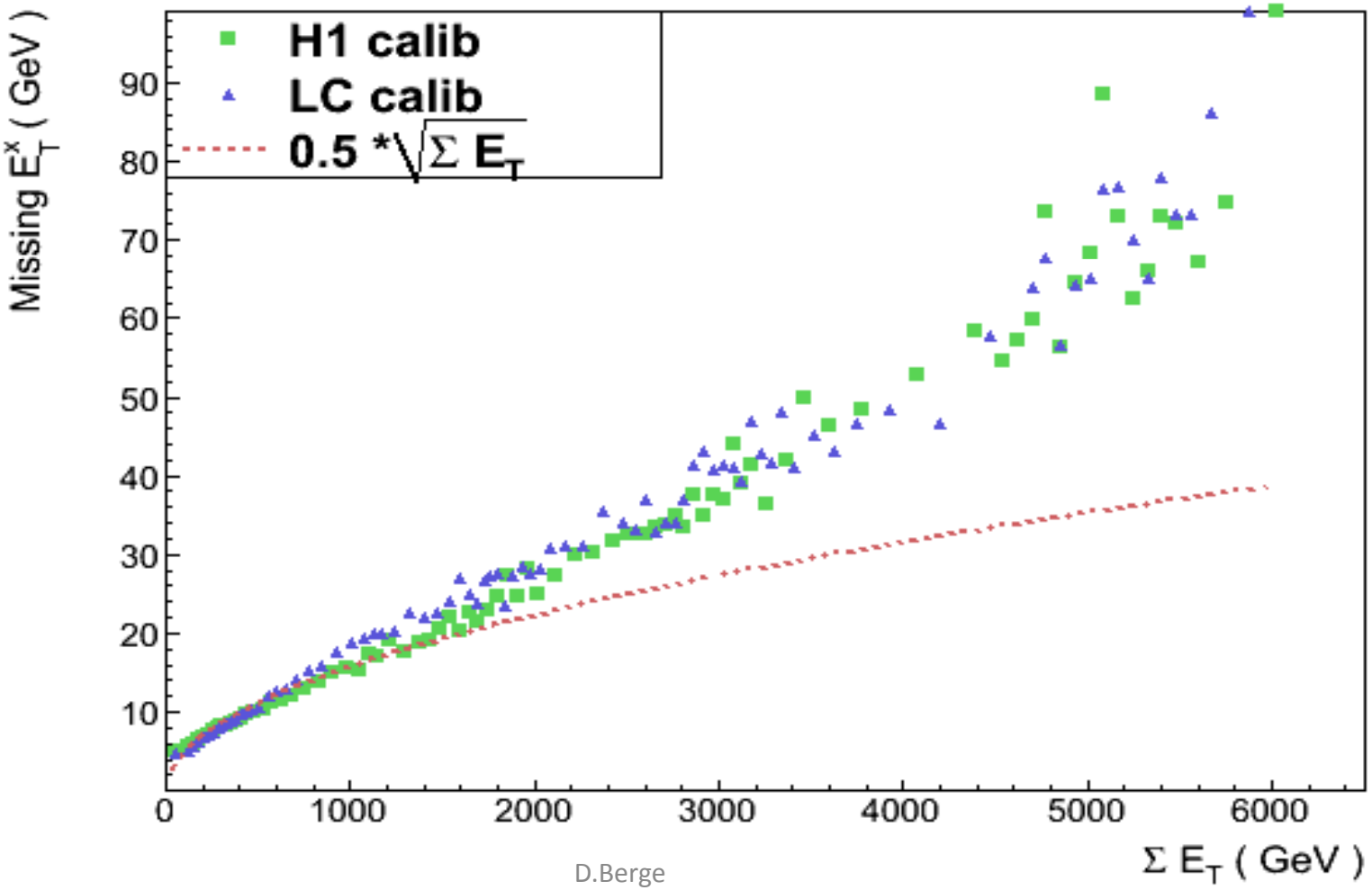


Jet eta distribution, rel15 samples



MET resolution H1 vs. LC

- Consistent with previous releases
- Departure at high SumEt due to constant term in jet resolution
- LC tends to be a bit worth over the full range
- But both calibration schemes have very similar performance



H1 vs. LC calibration in J6/J7 in large MET events

- Apparently no peak at eta=0 when using LC MET and jet collection
  - Only the H1 calibration causes an MET tail at eta=0
  - But asymmetry / beamspot displacement dilutes things a bit
- Looking at the tails in the jet resolutions projected out by requiring large MET, the LC calibration is considerably less asymmetric! But total number of events > 100 GeV MET is larger