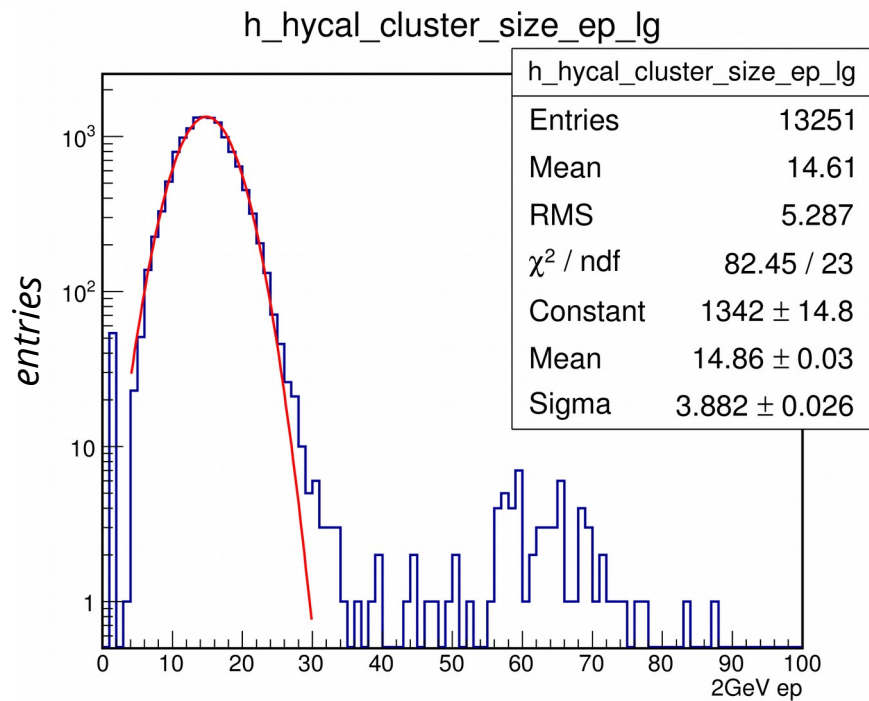
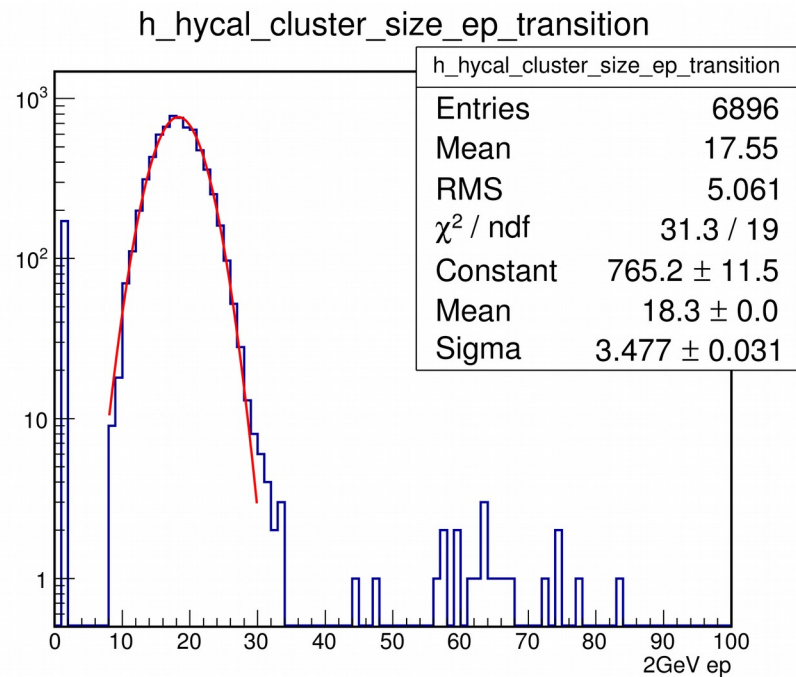
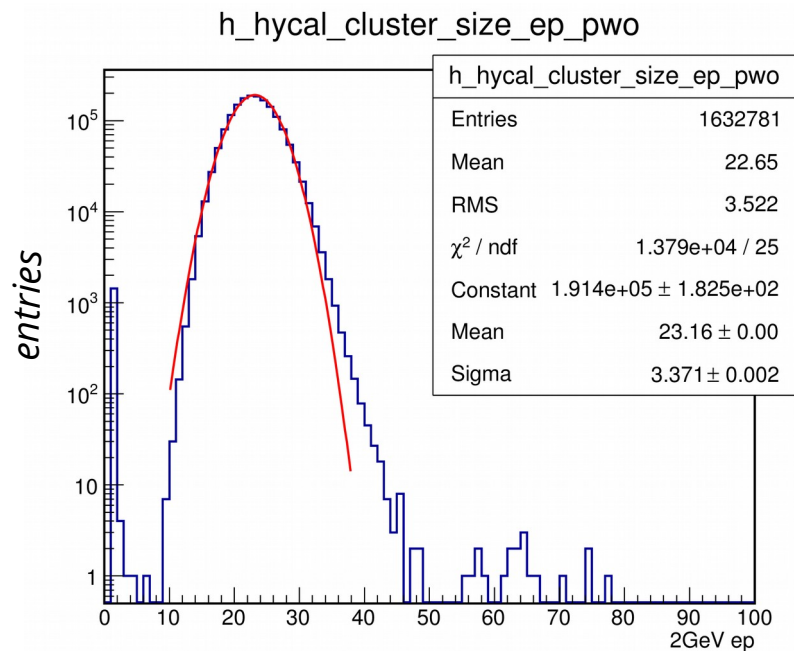
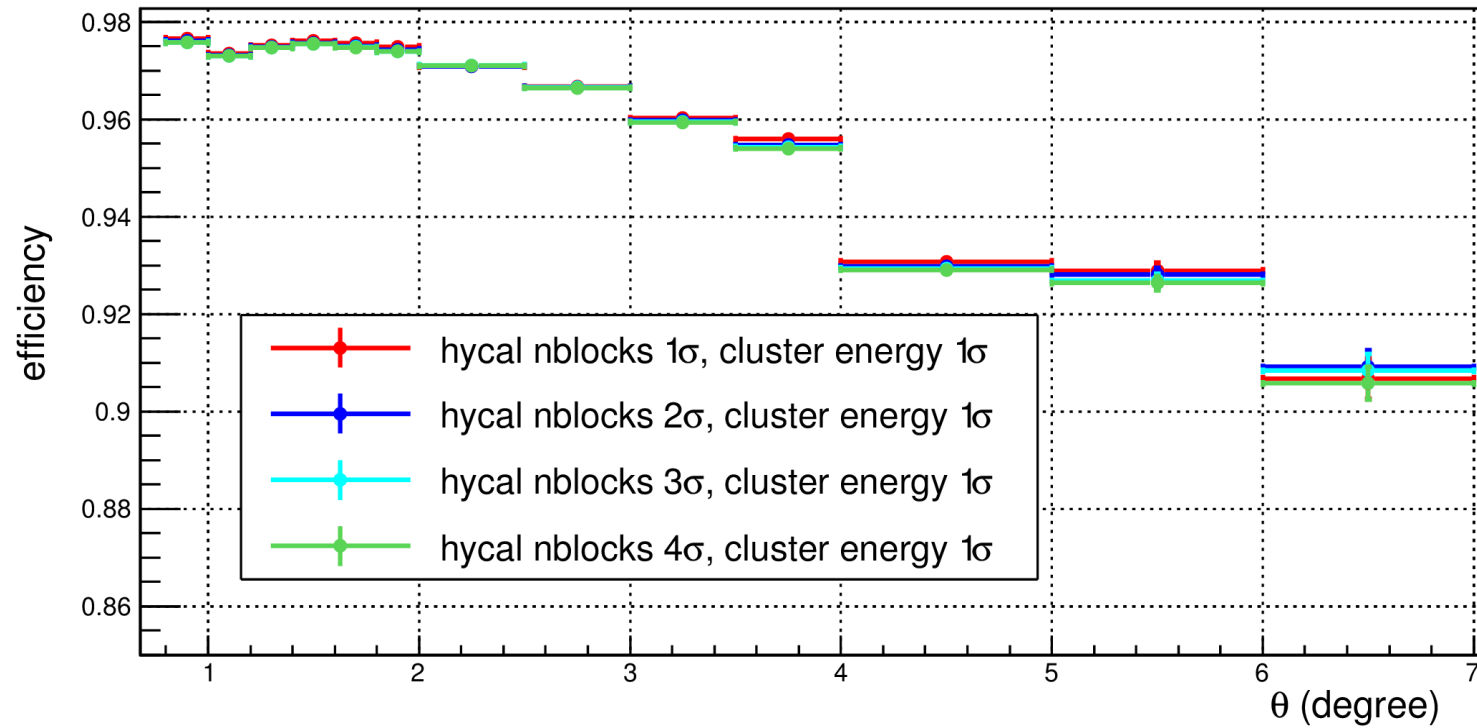


# HyCal cluster size (nblocks)



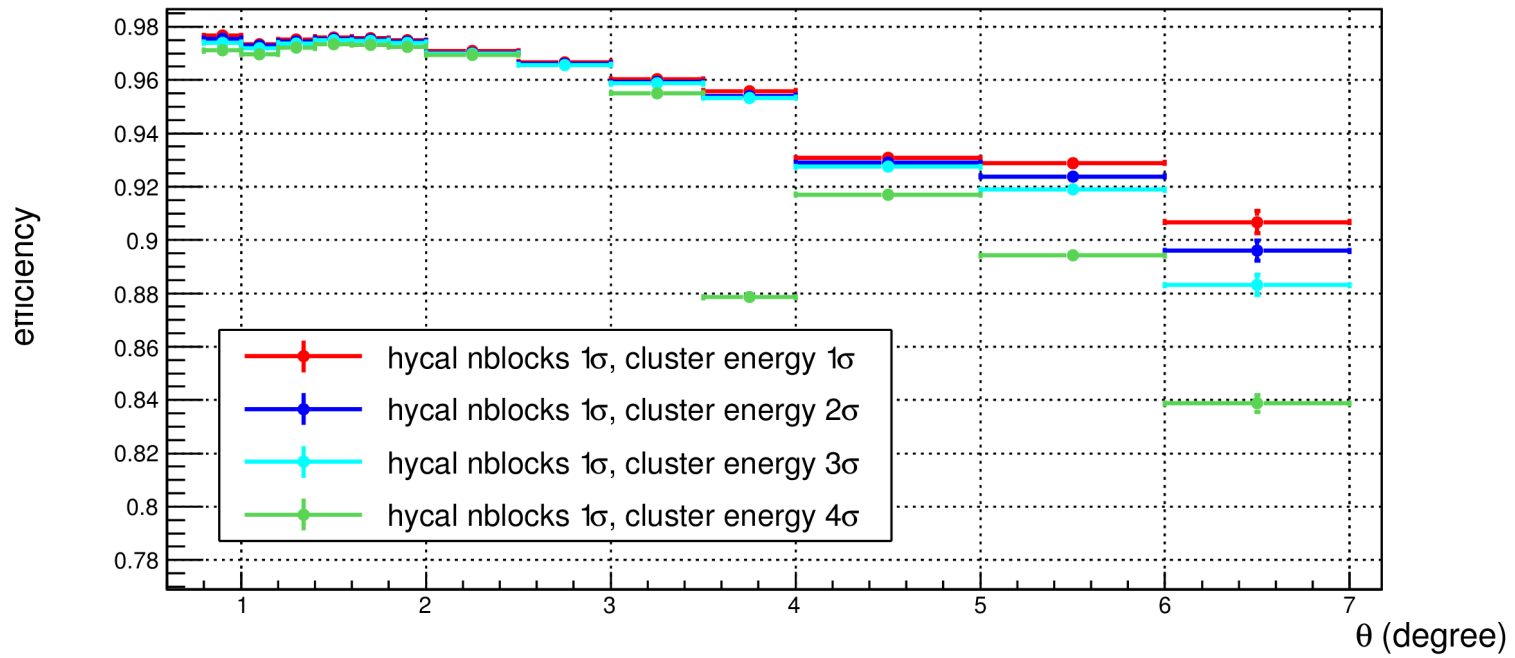
- 2 GeV production runs
- No GEM matching required
- No cosmic removal
- Using 1 sigma (centered at beam energy) energy cut

# GEM efficiency against HyCal cluster size (nblocks) cut



No big difference observed

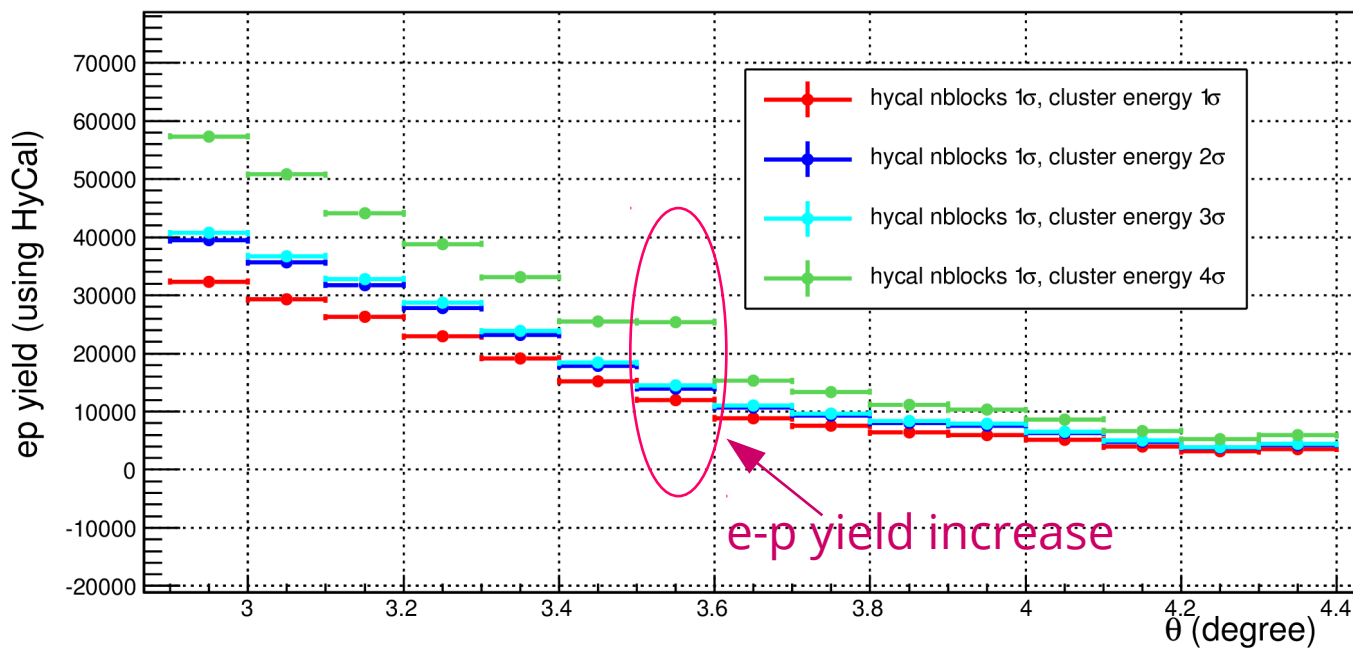
# GEM efficiency against HyCal cluster energy cut



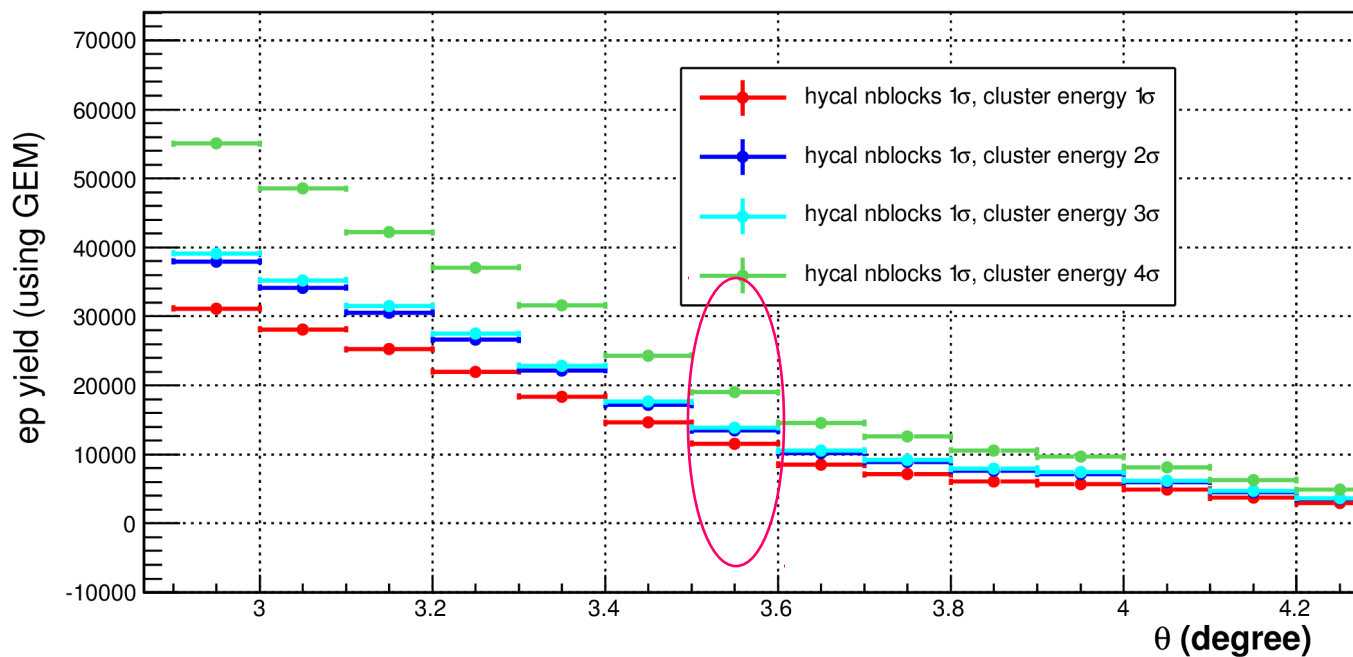
Efficiency sensitive to HyCal energy cut

# GEM efficiency drop

Without HyCal GEM matching, using only HyCal information



With HyCal GEM matching, using GEM information



# GEM efficiency with empty run subtraction

- 40 2GeV production runs
- Subtract empty target runs
- Scaled by equal live charge
- To do: scale by equal time for better cosmic rejection

