(Non-)Radiative event generation

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Pythia+radcor

- Thanks to info from Barak managed to run my previous input files in pythiaeRHIC including radgen (line 9 first 2 to create radgen Lookup tables, then 1 to run)
- Radgen code very picky with low and high y boundaries (crashing), had to use strictly 0.005 to 0.95 in the generation (0.01 in analysis anyway)
- Created so far only ep_18x275 files:
  - 50M event $1<Q^2<100$ GeV^2
  - 4M events $Q^2>100$
- Location:

/gpfs02/eic/DATA/YR_SIDIS/ep_18x275/radcor/

- *Not yet produced through detector simulation, but many studies can be performed on eic-smear files*

and Pythia w/o ISR

- Changes to default input cards
  - MSTP(11)=0
  - MSTP(61)=0 ! Master switch for ISR (default 2)
  - MSTJ(41)=1 ! Only QCD type of branching allowed in shower, no QED

- Created so far only for ep_18x275:
  - 40M event $1<Q^2<100$ GeV^2
  - 4M events $Q^2>100$
- Location:

/gpfs02/eic/DATA/YR_SIDIS/ep_18x275/noisr/

- *Not yet produced through detector simulation, but many studies can be performed on eic-smear files*

Summary

- Started creating the radcor and noisr simulations for ep_18x275 so far
- First, study the impact on the generator level,
- Later, study impact in fully simulated events (especially differences in DIS kinematic reconstruction methods, etc)

- If needed similar data for ep_5x41 straightforward to produce