

Updates of MC

T. Cao

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Normalization of MC Samples

- For Rad, tritrig or wab, normalization = integrated cross section / (# of good files * # of generated events per file)
- # of generated events per files: 10k for Rad, 50k for tritrig, and 100k for wab
- # of good files: we produced 10k files, but there are some problems during job processing on farm. Problematic files have been tagged using log files. Recently, I found a few files in final dst/tuple samples are empty, and those files also need to be excluded from good files. See details:

<https://confluence.slac.stanford.edu/display/hpsg/MC+Production+status+and+Location>

Rad MadGraph Data for Rad Leakage Analysis

- Directory: /volatile/hallb/hps/caot/test/mc/MG_alphaFix/RAD_LeakageCheck/2pt3
- Changes in run card:
 - 0.05 -> 0.25 = elminsp ! min E for l+ & at least one l-
 - 0.005 -> 0.015 = thetaylminsp ! min angle (y direction) for l+ and at least one l-

MC in Progress

- New ap MC
 - New prompt ap MC:
MadGraph -> EGS5 -> Stehep tools for tilt and offset -> slic -> merging with beam -> readout -> reconstruction
 - New displaced ap MC:
MadGraph -> **Only recoiled e- pass through target by EGS5 while vertex e+e- from ap is randomized by decay function** -> Stehep tools for tilt and offset -> slic -> merging with beam -> readout -> reconstruction; **Takashi will help to develop a tool for displaced ap case**
- For systematic errors: need more ap prompt and displaced MC at 50, 75, 100, 125, 150, 175 MeV
 - Target position: +/- 0.5 mm
 - SVT Opening angle: +/- 0.2 mrad

Moving to HPS-MC

- HPS MC has been successfully installed in Jlab: `/u/group/hps/users/caot/hps-mc`
- Will test tools which we used in job scripts