Begin time: 2:08 p.m.

End time: 3:10 p.m.

VCS/JPsi-007 software notes

Members present: Michael, Alexandre, Nilesh, Hamza, Shuo, Sylvester, Marie, and Melanie

Hamza

* Tried to implement the N-dimensional spline for program to calculate the cross section

Michael

* VCS Tasks: [Redmine page](https://redmine.jlab.org/projects/measurement-of-the-generalized-polarizabilities-of-the-proton-in-virtual-compton-scattering-e12-15-0/issues?set_filter=1&tracker_id=5)
  + Put a bunch of tasks up for the VCS (including those for the generator and the run plan) on the VCS Redmine
    - Need the radiative corrections set up and to make sure it works when running through simc
    - Need to do pion and electron backgrounds, migrate them all into one expected realistic signal
    - Goal is to ultimately get back to a cross section
  + Need to implement a shift/publication strategy
* \*\*\*\*if someone has done something but it isn’t yet added to the task list, please make a task yourself and then mark it as done for the sake of transparency\*\*\*

Sylvester

* Jpsi Tasks: [Redmine page](https://redmine.jlab.org/projects/j_psi-007/issues?set_filter=1&tracker_id=5)
  + Shifts have been sent out to collaborators and are already filling up
    - The group will not be signing up for regular shifts. We will have a separate set of shifts called “analysis shifts,” that will be a third shift role, offset by the regular shifts by 4 hours. It will entail looking at the online analysis more in-depth. Will discuss more about this next week.
  + Suspect that we overestimated our Bethe-Heitler background rates. Perhaps Marie could re-evaluate it using the BH generator and SIMC to get a more realistic background
    - (Will discuss weighting procedure offline, perhaps via email)
  + Do we need to vary the pressure of the HMS cherenkov for different kinematic settings? Will discuss more with Mark
  + Will talk with Brad about the Trigger setup
  + Final run plan due within next two weeks!
  + Please add Melanie, Michael, and Shuo to the Redmine page as members
* Did some documentation on simc. Refer to GitLab page, and consider working through the example: <https://gitlab.com/jpsi007/simc-file-input>

Marie

* Recently included DVCS and VCS within the DEEPGen framework (Refer to slides posted on the [Redmine page](https://redmine.jlab.org/projects/measurement-of-the-generalized-polarizabilities-of-the-proton-in-virtual-compton-scattering-e12-15-0/issues?set_filter=1&tracker_id=5) page)
  + VCS has currently has a weight for the 2-BH diagrams.
  + There is multiple weights in the ROOT output
    - Per event that comes out, you can have multiple weights. Total unpolarized, BH, VCS\_born, or VCS\_nb
  + To-do: how to use this output and plug it into simc
    - Easiest way is to take which channel you want to run on, and run it through simc (which uses only one weight) a four times for each weight, since it’s a pretty fast program
    - Must add other diagrams
  + Can run DVCS with relevant physics Sylvester is interested in, which has a similar final state interaction
  + Goal is to put this online by the end of the year