Session 3 : Exercise

Code for download: session3_start.tar.gz

Exercise 3a:

- Change primary generator class with use of `G4ParticleGun`.
  See eg. example basic/B2 README page and its B2PrimaryGenerator class
- Update `run.mac` and add runs with following primaries:
  `proton, positron, pion-, muon+`
  Run the macro from your interactive session (Qt).
- Add randomizing the particle direction with `theta in [0,2*deg], phi [0.,360*deg]`.
  See example basic/B3 README page and its B3PrimaryGenerator class

Exercise 3b:

- Activate interactively storing of random generator status, run simulation with a retrieved status and check results:
  1. Start application and run command:
     `/random/setSavingFlag true`
  2. Select a particle type and run 3 events:
     `/gun/particle proton`
     `/run/beamOn 3`
     Copy `currentRun.rndm` in `Run0.rndm` (by hand) and save a scene with 3 events.
  3. Run more events with varying the primary particle, eg. run your `run.mac`.
  4. Restore random status from the `Run0.rndm` file: `/random/resetEngineFrom`

Exercise 3c:

- Visualization
  - Add axes at the middle of the EmCalorimeter
  - Add date on your scene
  - Add text in red near your tube withe the « tube » label
  - Set background to « gray »
  - Make an 8000*6000 EPS file (with 100 events) and look at it
  - Complete vis.mac with these commands

Solution: session3_solution.tar.gz