

■ New output routines:

- Data about decayed photons (that have pair created and are therefore not included in the final state) is now available. Add '`dump_decayed_photons: true`' to the input file and a new group `intermediate-state/photon` will be added to the HDF5 output file. For now, this is opt-in, rather than the default. (Hat tip to Ivo!)
- The total amount of energy drawn from the laser is now recorded in a new dataset `final-state/laser/absorption`. This is mostly of relevance to simulations at extremely high intensity, where the cascade multiplicity + particle re-acceleration can be meaningfully large. Ptarmigan will issue a warning if the amount of absorption exceeds 10% of the laser energy.
- In addition to their ξ value at the point of creation, particles now also record the χ of their parent particle: this information is available under, e.g., `final-state/photon/parent-chi`.

■ And as for input...

- Ptarmigan will now accept its own output (and that of Daniel's ICS code **PICA**) as input – this will enable simulations of the ICS-laser geometry. Tests underway...
- In principle, this allows Ptarmigan to simulate arbitrary particle beams, sampled from a full 6D phase space, beyond the Gaussian spatial/energy distributions assumed so far.