

EW/BSM Physics Working Group To do List

1. CLFV(1,3) search:

- detector-based PID, high statistics for background study
- *leptoquarks*, axion-like particles (?)
- good vertex reconstruction – Detector WG (which one?)

2. Projection for weak mixing angle (NC DIS), expanding theory projections

- dark Z_d , dark photon, leptophobic Z' , and (redo??) SMEFT analysis
- generator with fast smearing (electron ID, acceptance, photoprod background, Inclusive PWG)

3. W_R boson study

4. CC DIS – longitudinally polarized hadron asymmetry, flavor separation of helicity PDFs

- JB method of kinematics reconstruction – (with jet/HF, incl, and SIDIS PWG?)

5. NC structure function: $F_1^{\gamma Z}$, $g_1^{\gamma Z}$ (but not $F_3^{\gamma Z}$ and $g_4^{\gamma Z}$)

6. Rare decays – other PWGs?

7. Simulation needed: LQGENEP, Pythia, Djangoh (some with fast smearing, “single-particle gun”?), ...details being worked on