

SUGGESTED TOPICS FOR DISCUSSION IN WORKING GROUPS

These topics are preliminary, and only intended to guide the informal discussions.

Please email dark-forces@slac.stanford.edu with any additional suggested topics.

E+E- COLLIDER WORKING GROUP

- 1) Existing limits and results
 - What phenomena have been probed by existing searches?
- 2) Future searches
 - What are the most important searches yet to be done?
 - How can these analyses be designed in a model-independent way?
 - What presentation of results is most useful for multi-body final states?
- 3) Differences among facilities
 - What are the unique features of Phi/Charm factories vs. B-factories?
 - How much improvement will super-B factories make?
- 4) Theoretical topics
 - Models and signatures of non-abelian higgsed sectors?

FIXED-TARGET EXPERIMENTS

- 1) Parameter ranges of sensitivity for different proposals
- 2) Possible facilities for new experiments
 - Electron and positron beams
 - Proton beams
 - Muon beams?
- 3) Background limitations, rejection of backgrounds
- 4) Are any additional parameter regions covered by "small" modifications of the proposals?

HIGH ENERGY COLLIDER WORKING GROUP

- 1) Production mechanisms: prompt dark-photon (jet+lepton-jet), Z decays, EW-ino production + strong SUSY production
 - Other models?
 - What to focus on first?
 - Important to consider various SUSY models? (do they lead to different enough signatures?)
- 2) Simulation
 - Review the available tools/methods for production, showering (abelian, non-abelian?), and decays
 - What is missing?
- 3) Analyses
 - Are lepton-jet (lj) definitions (e.g. 0909.0290) adequate? (for what scenarios are they inefficient?)
 - Possible to do jet + single lj search? (how to measure background?)
 - Priority for long-lived lj search? (how constraining are previous long-lived particle searches?)