Comments / Discussion: New directions for CLIC studies?

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Framework set by the ESG priorities

- Comparison, Complementarity, and Competition
- Higgs Physics (all accessible aspects)
- Coverage for phenomenological models
  - SMEFT (D=6)
  - Extended Higgs sector
  - SUSY
  - Others
- EW, Top, QCD: standards

Comprehensive documentation of results in the 2018 CLIC Yellow Reports.

Future Priorities?

1. Studies in 2019: completion, follow-up
   - cf. talks in today's sessions
   - partly driven by last-minute items from ESG

2. Studies 2020+ (assuming resources are available)
   - Do SMEFT studies exhaust the CLIC/e^+e^- potential?
   - (More) Simplified Models?
   - Flavor physics (cf. anomalies)?
   - QCD?
   - . . . ?
   - Connect to Asymptotics ($E = 5$ TeV, 10 TeV, . . .)?

SMEFT (D=6) is Not a Generic or Unbiased Framework

Assumptions

- Theory: EW gauge invariance // $D = 6$ is leading // $D = 8, 10, \ldots$
  $\Rightarrow$ systematic improvement // perturbativity
- Analysis/Fit: Universal rates and efficiencies l–q–t–$WZ\gamma$–H //
  universal E cutoff // data blind beyond $D = 6$

"Prediction": Quartic interactions & energy dependence are determined by trilinear interactions

Global view on future data:

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Can we do justice to the full information of CLIC stages
— getting rid of SMEFT/theory bias in future studies?