

White paper (to be referenced by CDR)

- k-framework ✓

- EFT: basis, observables

Basic option: only Higgs observables

SILH-like basis

Angular observable?

## CDR Higgs

1. Basic reaches, k. EFT rare decay  
Higgs-top coupling, FCNC

2. Physics

Electroweak phase transition) robust!

Naturalness

dark sector?

More?

CDR.  $\Sigma$

- Should aim for a white paper.

- Input:

Exp:  $m_z$ ,  $m_w$ ,  $A_{FB}^b$  etc.

More studies

Some guesses?

Full vs fast sim?

Several scenarios?

Off peak runs

W threshold?

Th. uncertainties (optimistic)

- Output.

- Oblique.

- Connection, interplay with

Higgs measurements

# CDR outline (theory overview part)

## 1. Brief description of the machine under

discussion: CEPC, 240 GeV + Z pole  
10<sup>6</sup> Higgs + Giga Z

## 2. Summary of Precision Measurement capability.

Higgs coupling:  $\kappa$ -framework, EFT  
rare decay, ~~CP~~ ...

Z-pole: oblique, rare decay

Flavor: H and Z FCNC decays

QCD:  $\alpha_s$ , precision studies, hadron

## 3 Physics

- Electroweak phase transition from Higgs measurement. Connection with grav waves, baryogenesis.

- Naturalness
  - Testing NP models: SUSY, composite.
  - "no-lose", must couple to Higgs
    - twin, landscape, ...
- $\nu$ -mass, lepto-genesis
- Dark Matter / dark sector portals.
- ...