

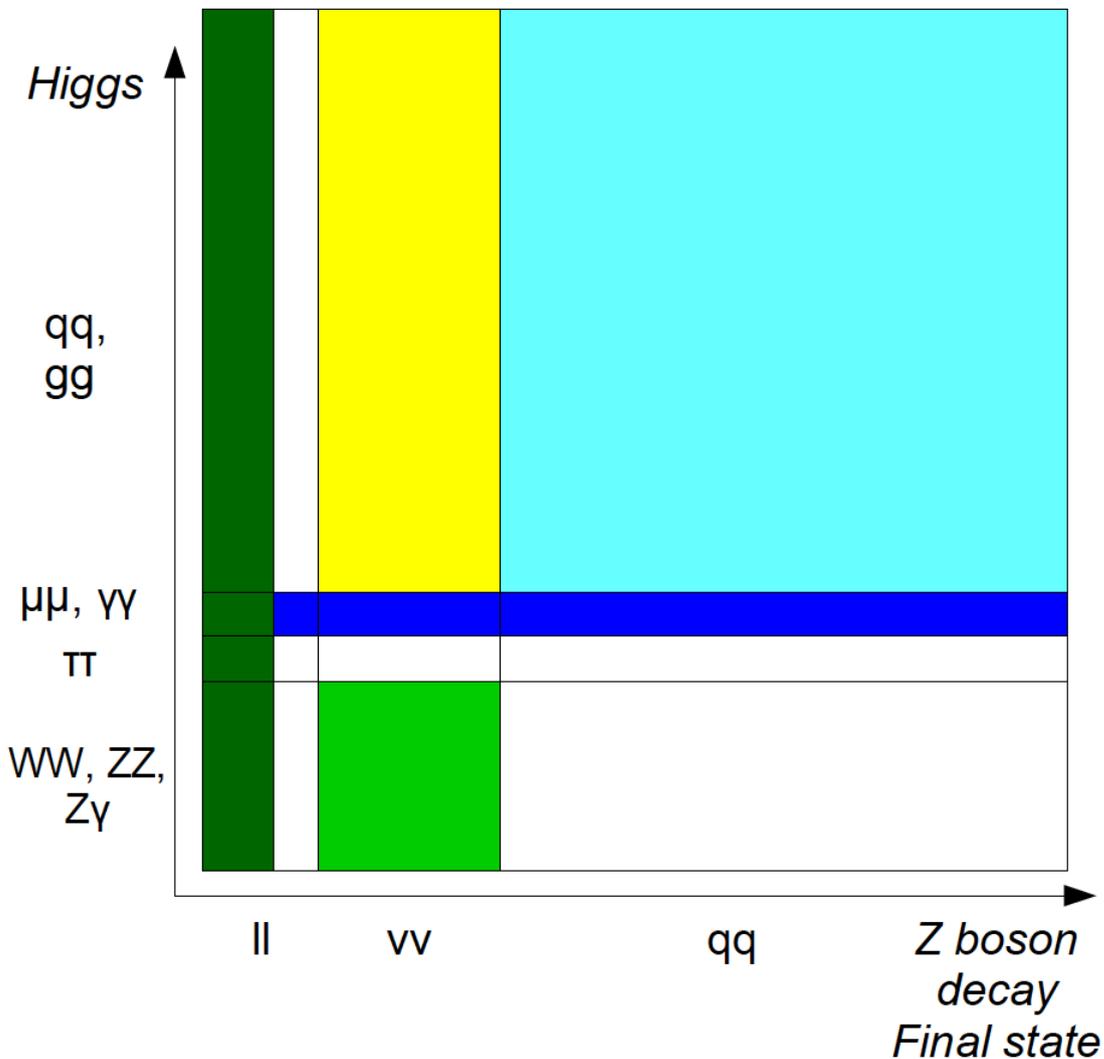
Detector design & physics study: Goal

- To understand the physics performance & physics requirement
- To prepare the technologies & Integration
- To deliver a reliable Design: Conceptual, Technical, Engineering

Topics

- Physics
 - Higgs studies is covered at full simulation level in CEPC-v1
 - CDR Baseline Geometry + Alternatives: Benchmark analyses iteration
 - EW & Systematic Control
- Sub-detectors: Realistic Modeling & Digitization + Integration, i.e, Cooling, thermal simulation, etc
- Software & Computing
 - Common efforts toward reconstruction AND framework
 - Services: Validation, release, etc
 - Data access & Computing power limit
- Limited by Manpower, Computing power and expertise – Need efficient cooperations

Optimization Benchmarks



Lepton & Momentum resolution: Br = 6.7%

Flavor Tagging & JER: Br = 14%

Composition of Jet/MET, lepton: Br = 4%

Jet Clustering: Br = 50%

Photon/ECAL: Br = 0.2%

Tracking: $H \rightarrow \mu\mu$, Br = 0.02%

qqH, $H \rightarrow \text{inv. MET \& NP}$: SM Br = 0.1%

EW, $\text{Br}(\tau \rightarrow X)$ @ Z pole: Separation