

Status report 2021.7.30

- Higgs exotic decay

- $\mu\mu H, H \rightarrow \varphi\varphi \rightarrow 4b$

- I will report current result on next ILD S&A meeting.
 - Need to consider how to evaluate the limit

- $eeH, H \rightarrow \varphi\varphi \rightarrow 4b$

- Very preliminary result is obtained.

- $\mu\mu H, H \rightarrow \varphi\varphi \rightarrow (bb)+invisible$

- Self production is being tried.

```
process mumuh = "e-", "e+" => "mu+", "mu-", h0
  { $restrictions = "1+2~Z && 3+4~Z" $omega_flags = "-model:constant_width" }
process hdec = h0 => b, "b~", "H0" { $restrictions = "2+3~H0" }
process H0dec = H0 => vm, "vm~", vt, "vt~" { $restrictions = "2+3~Z && 4+5~Z" }
```

- Consideration of studies for our kinematic fitter

- Main target: b-jet process

- Candidate

- $BR(H \rightarrow bb(cc/gg))$: Is it possible to reproduce previous study with mc-2020, especially template fit?
 - Single Top at 250 GeV: Are there available samples of this process? FCNC, $t \rightarrow qZ$
 - Also any suggestions, recommendations and opinions are welcome.

$eeH, H \rightarrow \varphi\varphi \rightarrow 4b$

