

status and plan for 2015

□ Higgs self-coupling

- ▶ collaboration with Claude and Masakazu
- ▶ short-term: update $\nu\nu\text{HH}$ @ 1 TeV analysis including overlay and $m\text{H}=125$ GeV, towards one publication
- ▶ mid-term: improve ZHH @ 500 GeV with kinematic fitting, matrix element method, cut re-optimization, etc.
- ▶ combine $\text{HH}\rightarrow\text{bbbb}$ and $\text{HH}\rightarrow\text{bbWW}^*$

□ Matrix element method

- ▶ continue development with more complement set of e^+e^- processes
- ▶ try to implement detector transfer function and apply for analysis

□ Color-singlet jet clustering

- ▶ investigate the implementation of color correlation inside Pythia; to understand how color-singlet characteristics are implement in generator
- ▶ combine the previous effort on Georgi Jet Clustering and Color-singlet Jet Clustering.