

Welcome to Japan

HC2012 - Higgs Coupling 2012

<http://www.icepp.s.u-tokyo.ac.jp/hc2012/>

A satellite workshop of HCP2012 (Kyoto in Japan, November 12-16) to discuss measurements related to Higgs boson particle with the latest results of Higgs searches from LHC and Tevatron.

November 18-20, 2012
ICEPP, The University of Tokyo
Tokyo, Japan

International Advisory Committee

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Sally Dawson (BNL)
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Local Organizing Committee

Shoji Asai (Tokyo)
Junichi Tanaka (ICEPP Tokyo, Co-chair)
Reisaburo Tanaka (LAL, Co-chair)

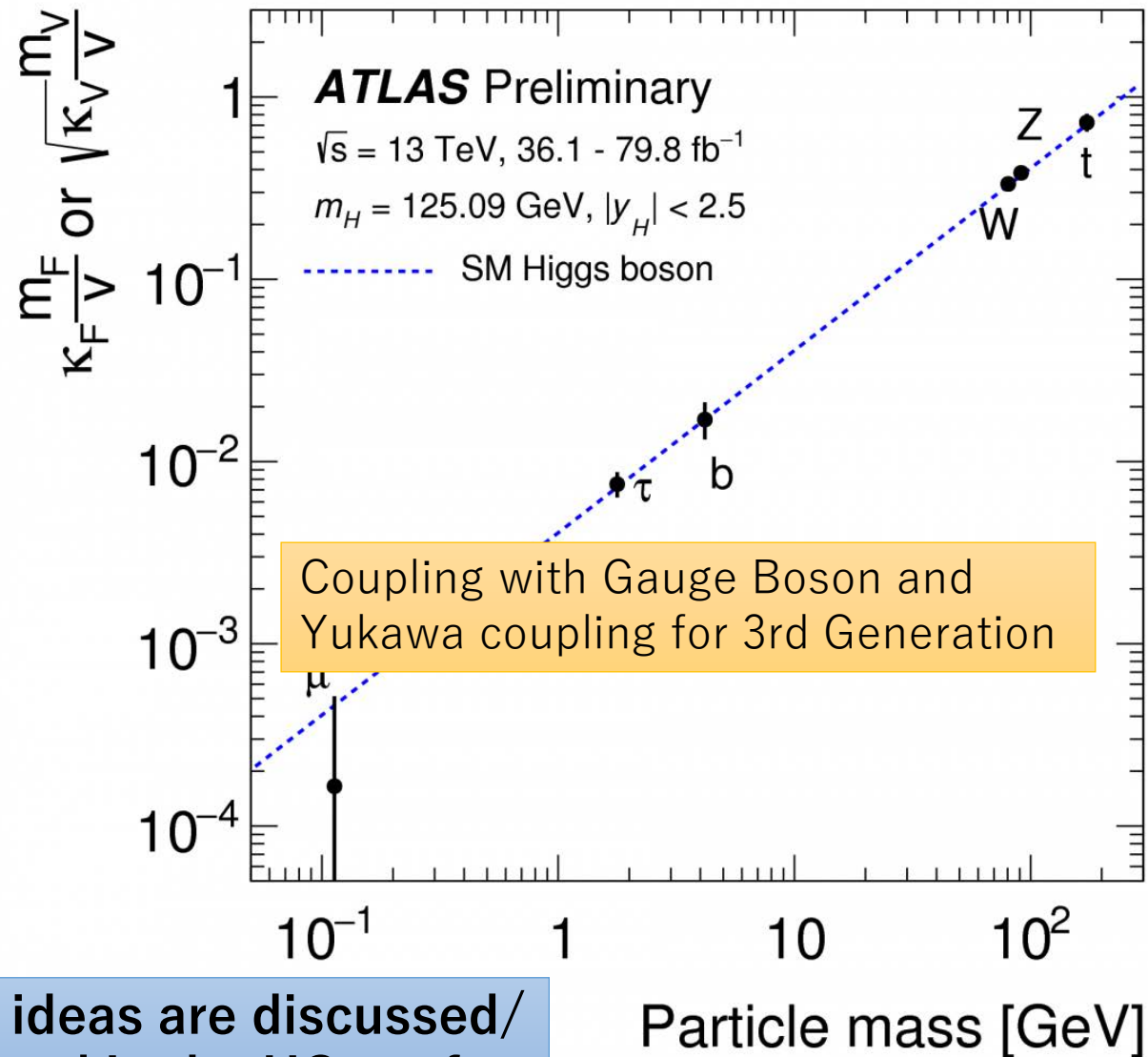
Higgs Coupling Started at Tokyo

We have achieved big progresses: Experimental side.

Discovery of the Higgs boson



Measurement of Higgs coupling



Many ideas are discussed/
proposed in the HC conf.

Theoretical side has also significantly improved for the last 6 years

Processes	Before	Now
ggF	NNLO+NNLL QCD + NLO EW	N3LO QCD + NLO EW
VBF	NLO QCD + NLO EW	NNLO QCD + NLO EW
VH	NLO QCD + NLO EW	NNLO QCD + NLO EW
ttH	NLO QCD	NLO QCD + NLO EW

Thanks to Rei. Tanaka
for summary table

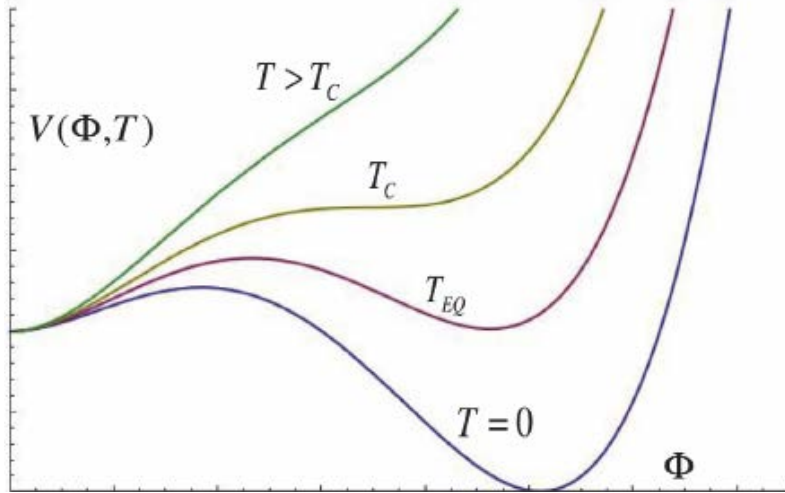
Calculations and the MC accuracy have been significantly improved.
Many contributions from the HC conference.

These are the primary motivation of the HC conf.

→ **Let's keep this direction:**

New discussion in Higgs study; Let's start discussions about Higgs potential / Transition with non-collider physics. [Beyond Collider]

How and Why the Phase transition of the vacuum occurs ?



Collaboration

- 1) Precise measurements at colliders
- 2) GW, Cosmology, CMB, non-collider physics

Plenary: S9 Beyond Collider

14:00

Recent results of gravitational wave (25+5)

Speaker: Masaki Ando

14:30

Recent development for the Higgs inflation (30+15)

Speaker: Fedor Bezrukov (University of Manchester (GB))

15:15

Recent results of CMB (25+5)

Speaker: Christian Reichardt (University of Melbourne)

15:45

Topological objects in the Higgs sector (25+5)

Speaker: Masafumi Kurachi

Detail shape of Higgs potential?

