Contribution ID: **90** Type: **Oral presentation using Zoom**

Possibility of multi-step electroweak phase transition in the two Higgs doublet models

Thursday 28 October 2021 17:10 (20 minutes)

In this talk, we discuss whether a multi-step electroweak phase transition (EWPT) occurs in two Higgs doublet models (2HDMs). We examine parameter regions in CP-conserving 2HDMs and find certain areas where the multi-step EWPTs occur. In addition, we compute the Higgs trilinear coupling in the parameter region where the multi-step EWPTs occur, which has the tendency to be large in a certain region comparing that for the 1-step EWPTs. Especially, when the first step of the 2-step EWPT is strongly first order, we find the deviation of the coupling from that in the SM is more than about 50%, which can be detected in the ILC operating at 500 GeV.

1st preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

2nd preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

Primary author: SHIBUYA, Hiroto (Kanazawa University)

Presenter: SHIBUYA, Hiroto (Kanazawa University)

Session Classification: F-3: Higgs properties

Track Classification: Parallel sessions: Topical Groups: Session I: Electroweak physics