KEK Theory Meeting on Particle Physics Phenomenology (KEK-PH2018 winter) and 3rd KIAS-NCTS-KEK workshop on Particle Physics Phenomenology

Contribution ID: 71

Type: not specified

## Direct measurement of the trilinear Higgs self-coupling in $e^+e^- \rightarrow ZH$ .

Thursday, 6 December 2018 16:45 (15 minutes)

A method to measure "directly" the trilinear Higgs self-coupling  $\lambda$  in a single Higgs production process is proposed. Time-reversal-odd (T-odd) quantities in the process  $e^+e^- \rightarrow ZH$ ,  $Z \rightarrow f\bar{f}$  are computed from the absorptive part of the electroweak one-loop amplitude. They are essentially up-down asymmetries of the final fermion f with respect to the ZH production plane. The T-odd asymmetries directly measure  $\lambda$ , because the tree-level diagram for a final-state interaction between the ZH contributes linearly to them.

Presenter: NAKAMURA, Junya (Universität Tübingen)

Session Classification: Parallel Session 1