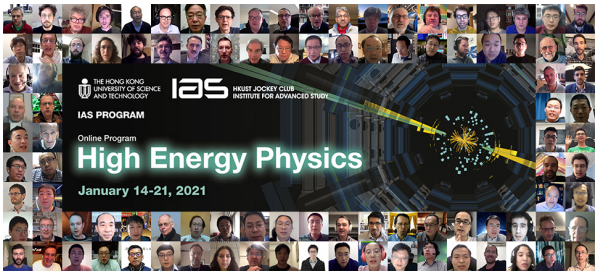

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Probing EWPT in 2HDM with future lepton colliders

The electroweak phase transition can be made first order by extending the Standard Model (SM) Higgs sector with extra scalars.
In this talk, we focus one the a strong first order electroweak phase transition (SFOEWPT) in the type-I and type-II two Higgs doublet models (2HDM). Through a parameter space scan, we find that SFOEWPT suggests upper limits on the masses of the heavy Higgs $m_{A/H/H^{\pm}}$, which is less than 1 TeV. High temperature expansion and Higgs vacuum uplifting is used for an analytical understanding of our results. We find that sizeable loop corrections require $m_A \approx m_{H^{\pm}} > m_H$ to meet the SFOEWPT condition in the Type-II 2HDM. We also study the possibility of probing SFOEWPT at the one-loop level from Higgs and Z-pole precision measurements at future Higgs \& Z factories.

Scheduling Preferences

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