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Alternatives to Top-partner scenarios

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In traditional models, no matter in SUSY or CHM, top partners are introduced to cancel the top loop contribution to the Higgs quadratic term. However, the lack of evidence for these top partners required increasing fine-tuning in these types of models. To get a natural EWSB model, an alternative is preferred. In this talk, I will present solutions in another direction. Instead of canceling the top loop, we try to cut it off. It implies that the top Yukawa coupling has its sizable strength only in the infra-red, but gets strongly suppressed at high scales due to new interaction and degree of freedom. I will discuss how these new particles could be and how the top Yukawa is modified. The related phenomenology will also be discussed.

Summary

Primary author: CHUNG, Yi (Max-Planck-Institut für Kernphysik)Presenter: CHUNG, Yi (Max-Planck-Institut für Kernphysik)Session Classification: Parallel Session Thursday

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