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Hubble-induced mass from MSSM plasma

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We evaluate the effective mass of a scalar field ¥phi coupled to thermal plasma through Planck-suppressed interactions.
We find it useful to rescale the coupled fields so that all the ¥phi-dependences are absorbed into the yukawa and gauge couplings,
which allows us to read off the leading order contributions to the effective mass ¥$tildem_{¥phi}$ from the 2-loop free energy calculated
with the rescaled couplings.
We give an analytical expression for ¥$tildem_{¥phi}$ at a sufficiently high temperature
in the case where ¥phi is coupled to the MSSM chiral superfields through non-minimal
K¥$ddot$¥$texta$hler potential.
We find that $|¥tildem^2_{¥phi}|$ is about $10^{-3}H^2$¥$sim$$10^{-2}H^2$ at the leading order in terms of the couplings for typical parameter sets, where H is the Hubble expansion rate in the radiation-dominated era.

Primary author: Mr TAKESAKO, Tomohiro (ICRR, University of Tokyo)

Co-authors: Prof. TAKAHASHI, Fuminobu (Tohoku University); Prof. KAWASAKI, Masahiro (ICRR, University of Tokyo)

Presenter: Mr TAKESAKO, Tomohiro (ICRR, University of Tokyo)

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