

## Phenomenology 2019 Symposium



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## New sources for scalar soft masses in Supersymmetry

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Models of electroweak supersymmetry with vanishing scalar masses at some high scale is well motivated as it suppresses dangerous flavor violating contributions. Therefore, loop suppressed and log enhanced gaugino mediated contribution remains the only source of scalar masses. Consequently, right handed sleptons turn out to be the lightest supersymmetric particles which is cosmologically unviable. In this work, we show that soft masses for scalar superpartners of all generations get radiative correction from supersymmetry breaking trilinear terms which are non-holomorphic in visible sector fields. This effect is most prominent for right handed sleptons and can even dominate over the usual gaugino mediated contribution, resulting in a viable spectra.

### Summary

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