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Title:	Inverse seesaw mechanism with compact supersymmetry: Enhanced naturalness and light superpartners
Authors:	Patel, K.M. (/jspui/browse?type=author&value=Patel%2C+K.M.)
Keywords:	Inverse seesaw Compact supersymmetry Enhanced naturalness Light superpartners
Issue Date:	2018
Publisher:	American Physical Society
Citation:	Physical Review D, 98(7).
Abstract:	We consider the supersymmetric inverse seesaw mechanism for neutrino mass generation within the context of a low-energy effective theory where supersymmetry is broken geometrically in an extra dimensional theory. It is shown that the effective scale characterizing the resulting compact supersymmetric spectrum can be as low as 500–600 GeV for moderate values of $\tan\beta$. The potentially large neutrino Yukawa couplings, naturally present in inverse seesaw schemes, enhance the Higgs mass and allow the superpartners to be lighter than in compact supersymmetry without neutrino masses. The inverse seesaw structure also implies a novel spectrum profile and couplings, in which the lightest supersymmetric particle can be an admixture of isodoublet and isosinglet sneutrinos. Dedicated collider as well as dark matter studies should take into account such specific features.
Description:	Only IISERM authors are available in the record.
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