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Invisible Higgs decays and the Galactic Center Excess in the NMSSM

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The NMSSM is, for several reasons, an attractive extension of the Standard Model. One of them is that the gamma ray excess from the galactic center can be explained with an NMSSM neutralino annihilating through a light pseudoscalar. Such light dark matter candidate will lead to invisible Higgs decays at the LHC. Using SFitter we connect the galactic center excess with the observed dark matter relic density and invisible Higgs decays. Typical branching ratios of a SM-like Higgs to NMSSN neutralinos can easily reach 30%.

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