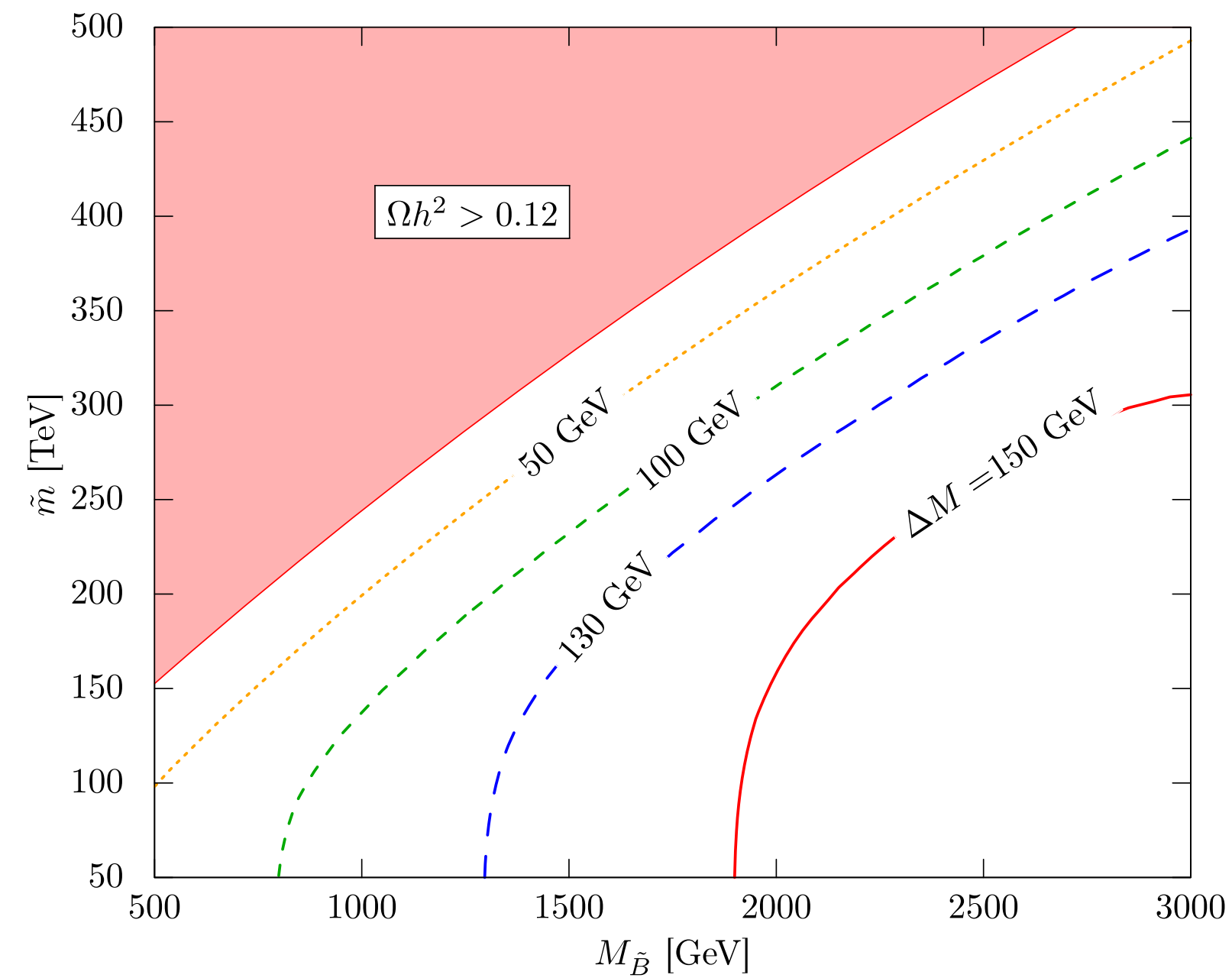


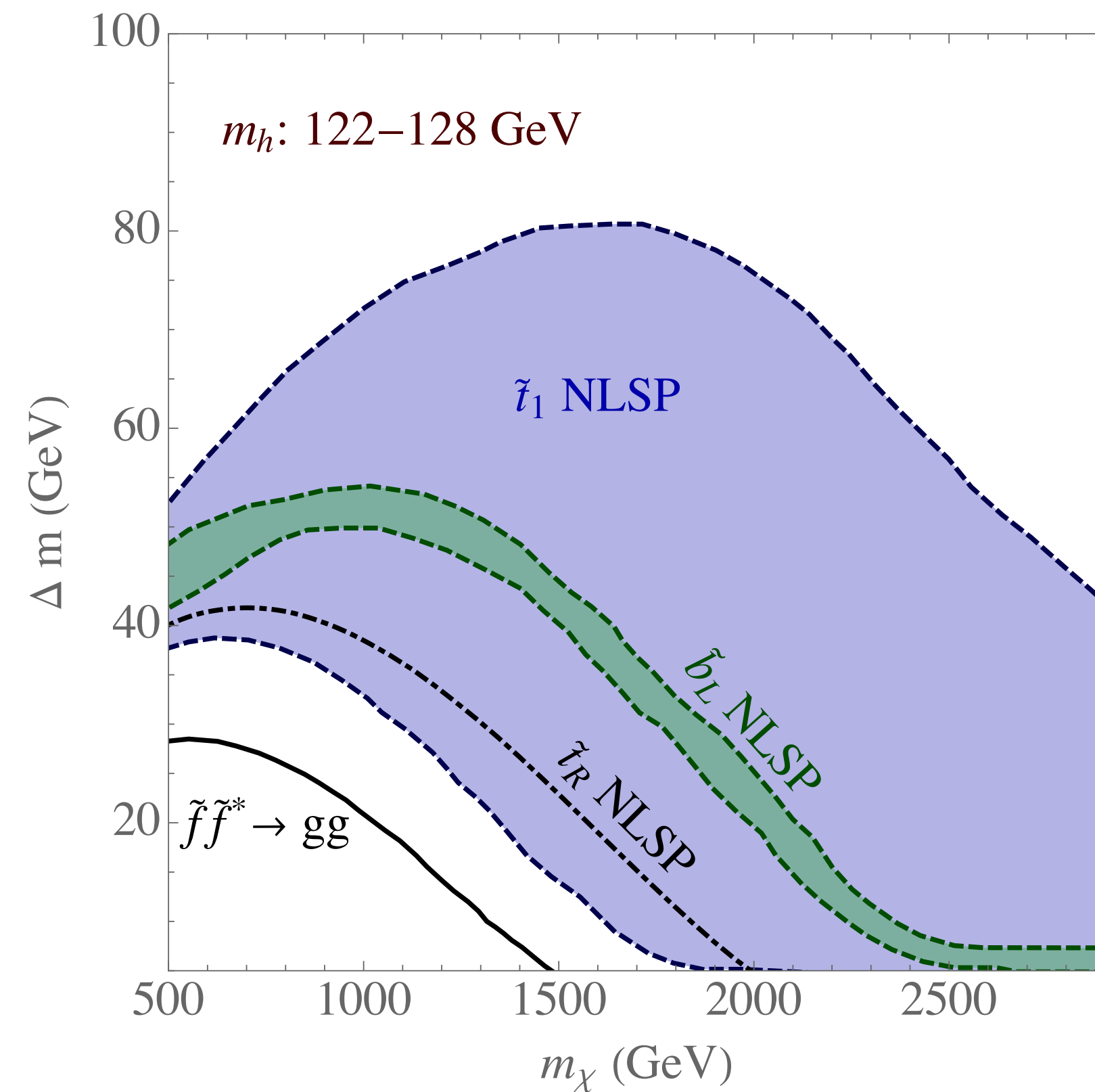
Benchmarks Scenarios for WIMPS

Snowmass 2021 EF10 DM@colliders

Co-annihilation



Glauino PLB 748 (2015) 24–29

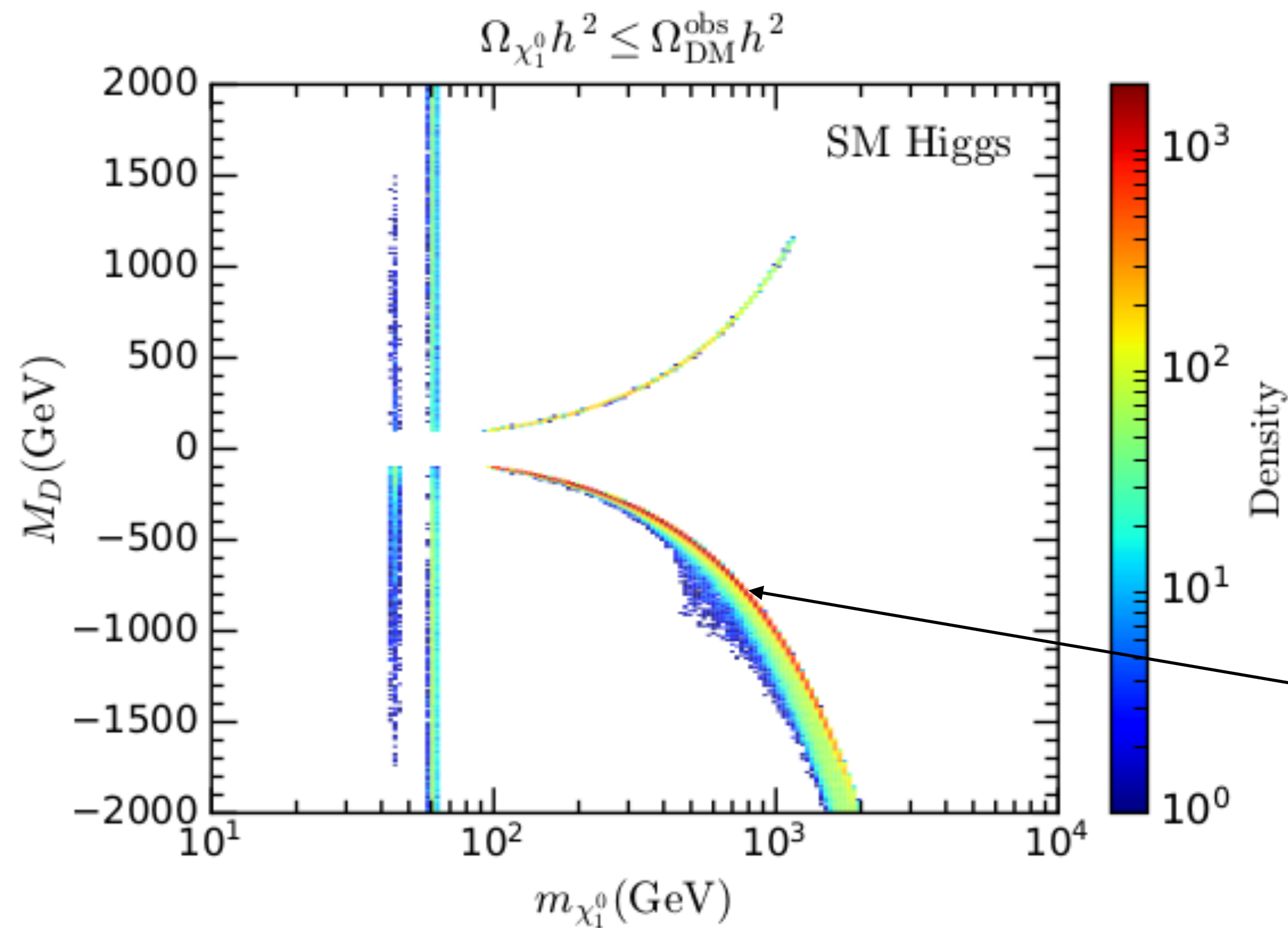


Stop arXiv: 1706.01911

In both cases you have a situation **without** MET as a handle for collider searches

Well-tempered:

- Admixture of bino with higgsino needs a blind spot because of DD.



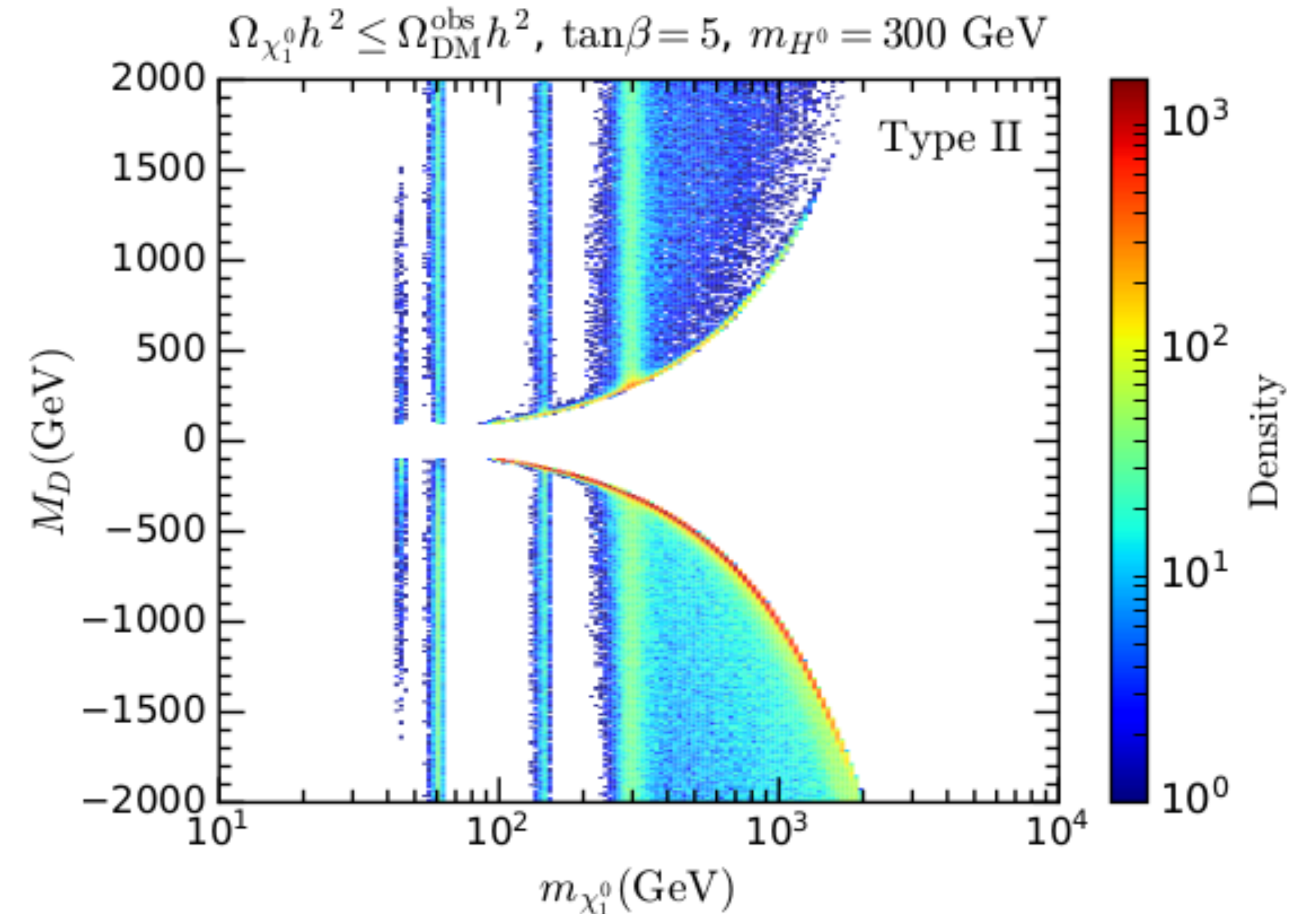
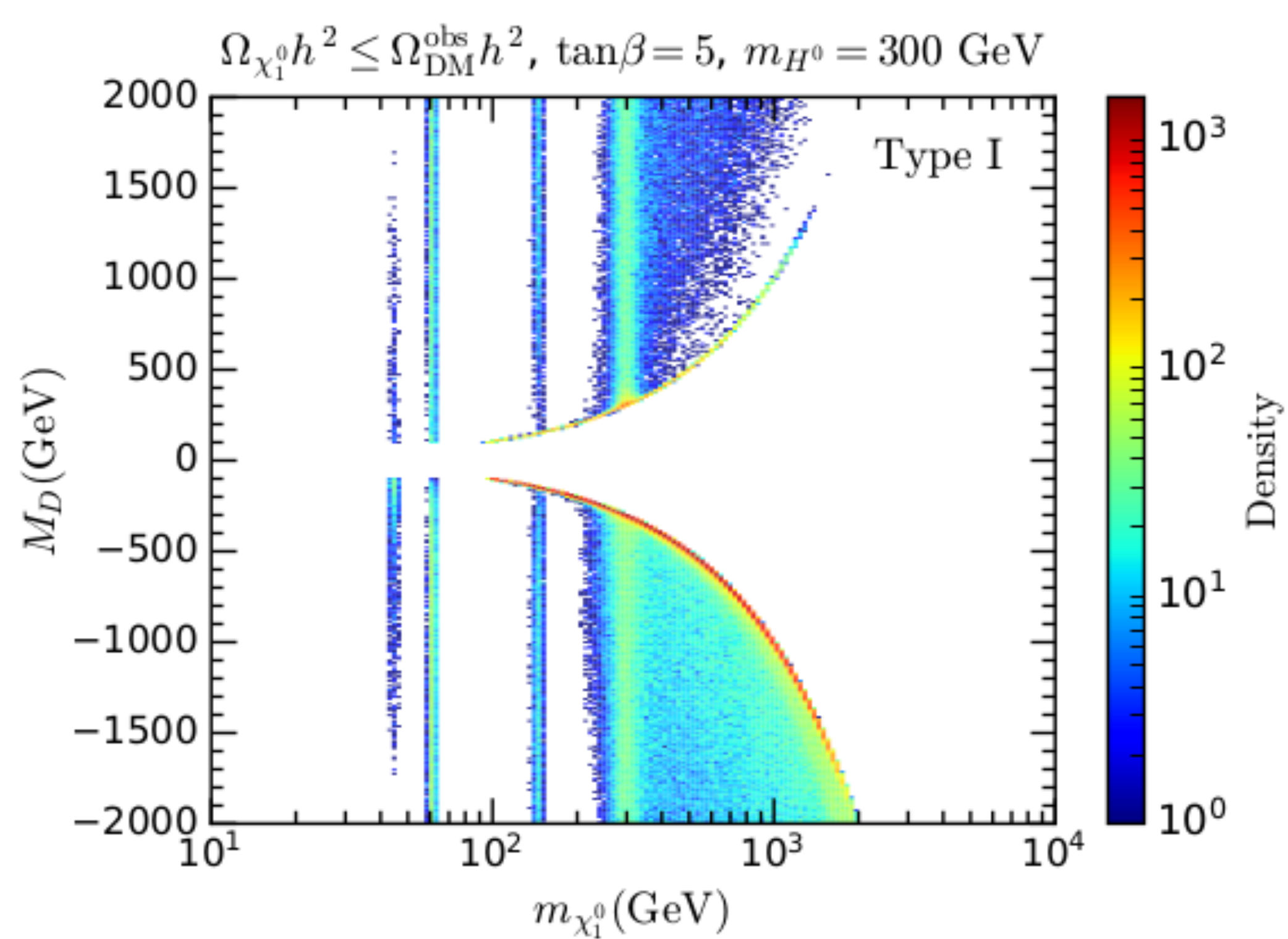
Search for charginos!!!!

arXiv: 1912.01758

$\Omega = \Omega_{\text{obs}}$

2HDM portal:

- In a 2HDM with alignment without decoupling the parameter spaces opens:



In this scenario one may want to focus on **invisible** decays of the heavy Higgs.

For example, $pp \rightarrow H H$ with one H decaying to $\chi\chi$

- Co-annihilation: coloured particle of ~ 1 TeV with $\Delta m \sim 100$ GeV with LSP
- Well-tempered region: Blind spot for DD. Look for charginos!!!
- 2HDM portal: Invisible decays of Heavy Higgs