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## Anatomy of Coannihilation with a Scalar Top Partner

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We present a simplified dark matter model where a Majorana fermion  $\chi$  coannihilates with a colored scalar top partner  $\tilde{t}$ . We explore the cosmological history, with particular emphasis on the most relevant low-energy parameters: the mass splitting between the dark matter and the coannihilator, and the Yukawa coupling that connects these fields to the Standard Model top quarks. We also allow a free quartic coupling between a pair of Higgs bosons and  $\tilde{t}$  pairs. We pay special attention to the case where the values take on those expected where  $\tilde{t}$  corresponds to the superpartner of the right-handed top, and  $\chi$  is a bino. Direct detection, indirect detection, and colliders are complementary probes of this simple model. We will also discuss implications for stop coannihilations within the MSSM.

### Oral or Poster Presentation

Oral

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