

Phenomenology 2022 Symposium: From Virtual to Real



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Higgsino Dark Matter Theory and its Experimental Probes

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We examine a particularly compelling class of supersymmetric models with Higgsino-like thermal dark matter. In particular, this class of models has a split in energy scales between the Standard Model particles and the supersymmetric scalar masses motivated by the mass of the Higgs boson and by existing experimental bounds. While having very few input parameters, many of the supersymmetry breaking parameters are either described explicitly or through mediation of a conformal anomaly. We explore this space in terms of direct and indirect detection, along with electron electric dipole moment experiments, and show the available parameter space is almost entirely accessible to next generation experiments.

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