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New search strategies for well tempered neutralino dark matter at the LHC and beyond

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Supersymmetry with R parity provides a stable dark matter candidate. However, over much of the parameter space, the dark matter candidate does not freeze out to the observed relic abundance. One method to achieve the observed relic abundance relies on the co-annihilation of multiple, nearly-degenerate electroweakino states. This so-called well tempering evades traditional collider searches because the compressed spectrum leaves soft decay products. I outline a new strategy that takes advantage of this compressed spectrum and estimate its usefulness at the LHC and a future 100 TeV collider.

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