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Astroparticle and Cosmology Theory Overview : Testing the Thermal WIMP Paradigm

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Weakly Interacting Dark Matter Particles (WIMPs) are among the most well-motivated models for particle dark matter. Among a plethora of WIMP model building, models utilizing a standard thermal annihilation cross-section for the dark matter particle hold a particular significance due to their simplicity. The field of indirect dark matter searches has recently made an exciting transition from constraints that could potentially detect dark matter particles, to studies that can place strong limits on generic classes of these same models. In this talk, I will summarize the current state of this field, including several significant constraints and excesses that provide hope of resolving this puzzle over the next decade.

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