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Indirect Detection of Complex Dark Sectors: Constraints and the Antinuclei Anomaly

Tuesday 2 December 2025 16:00 (30 minutes)

Complex dark sectors are models where a ‘sector’ of new particles with intra-sector interactions are used to extend the Standard Model. Motivated by theoretical considerations such as the Hierarchy Problem, these models generically also provide dark matter candidates. In this talk I will discuss a range of complex dark sectors and how the properties of the gauge group can effect astrophysical signals. Additionally while we can constrain these models using a variety of channels, there is still room to explain the potential antinuclei excess observed at AMS-02.

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