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Global Fits of vector-mediated simplified models for Dark Matter

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Dark matter candidates can arise from a wide range of extensions to the Standard Model. Simplified models with a small number of new particles allow for the optimisation and interpretation of dark matter and collider experiments, without the need for a UV-complete theory. In this talk, I will discuss the results from a recent GAMBIT study of global constraints on vector-mediated simplified dark matter models. I will cover several models with differing spins of the dark matter candidate. Along with these constraints, I will provide new unitarity bounds from the self-scattering of vector dark matter and discuss their effect on collider constraints.

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