

## 38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS

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## Detection prospects for conformally constrained vector-portal dark matter

Saturday 6 August 2016 18:00 (2 hours)

We work with a UV conformally complete U(1)' extension of the Standard Model, motivated by the hierarchy problem and recent collider anomalies. This model admits fermionic vector portal WIMP dark matter charged under the U(1)' gauge group. The conformal boundary conditions can be used to fix the coupling parameters, which allows the observed thermal relic abundance to constrain the mass of the dark matter particle. This highly restricts the parameter space, allowing strong predictions to be made. The parameter space of several conformal U(1)' scenarios will be explored, and both bounds and possible signals from direct and indirect detection observation methods will be discussed.

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Track Classification: Astro-particle Physics and Cosmology