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[305] Dark Matter Effective Field Theory and an Application to Vector Dark Matter

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The Standard Model Effective Field Theory (SMEFT) and the Low Energy Effective Field Theory (LEFT) can be extended by adding additional spin 0, 1/2 and 1 dark matter particles which are singlets under the Standard Model (SM) gauge group. In my talk I will classify all gauge invariant interactions in the Lagrangian up to terms of dimension six, and discuss the tree-level matching between the two theories at the electroweak scale. As an application I will consider a model with dark vector particles obeying a Z_2 symmetry. This setup is a viable dark matter model in the freeze-in scenario for a wide range of parameters.

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