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Constraints on dark matter interactions using white dwarfs

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Dark matter has been one of the greatest paradigms in the past few decades. In this talk we discuss the capture of dark matter in compact stellar objects as complementary to direct detection searches. We particularly work with white dwarfs (WD) since they are one of the best observed compact objects proposed as cosmic laboratories for studying physical processes happening at very extreme conditions. We used an Effective Field Theory approach to describe the interactions between fermionic DM and nuclei and calculated bounds on the cut-off scale of spin-independent operators.

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