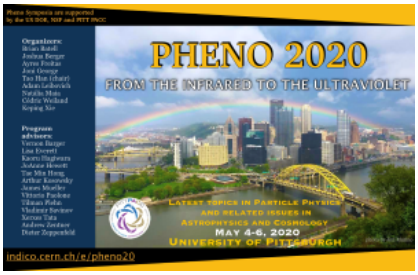

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Neutrino Portal to FIMP Dark Matter with an Early Matter era

Tuesday 5 May 2020 17:30 (15 minutes)

The freeze-in production of FIMP dark matter candidate through neutrino portal is discussed. The hidden sector is comprised of a fermion and a scalar, while a heavy right handed neutrino is responsible for mediating the interaction between SM and hidden sectors. In addition, we assume that an early matter-dominated era took place for some period between inflation and BBN, making the Universe to expand faster than in the standard radiation-dominated era. In this case, the hidden and SM sectors are easily decoupled, while larger couplings is needed to achieve observed DM relic density. In this scenario, we show that in some case, the model becomes testable through indirect detection searches.

Summary

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