

Constraints on Dark Matter models with large annihilation cross sections from the Early Universe

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I will show how is it possible to place stringent constraints on high DM self-annihilation cross sections making use of cosmological observables. Current CMB measurements do in fact allow the possibility to limit down to the thermal values for particle masses of few GeV, with constraints that depend only on cosmological parameters, and are not affected by astrophysical uncertainties. It is also possible to place strong constraints on self-annihilation cross sections by using observations related to the Epoch of Reionization, relying in this case on structure formation scenarios.

Presenter: IOCCO, Fabio (IPhT at CEA/Saclay; IAP Paris)

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