

## Sterile neutrinos as thermal dark matter

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Sterile neutrinos produced through resonant or non-resonant oscillations are a well motivated dark matter candidate, but recent constraints from observations have ruled out most of the parameter space. On the one hand, observations of large scale structures by using the Lyman-alpha forest put strong constraints on warm dark matter, and puts a lower limit on the sterile neutrino mass. On the other hand, observations of X-rays from galaxies and other dense dark matter halos put an upper limit on the mixing between the sterile neutrino and active neutrinos. In this talk I will discuss a simple mechanism that relaxes both of these bounds by thermalising the produced sterile neutrino, thereby obtaining a lower temperature and a higher abundance.

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