

Sterile neutrino Dark Matter - an update

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This talk is based on the recent review 1602.04816, which contains contributions from many different authors. Rather than focusing on any particular aspect, I aim to give a condensed summary of the status of the field.

Summary

Heavy sterile neutrinos with sufficiently small mixing angle are a natural Dark Matter candidate. This scenario can be tested indirectly by searches for an emission line from Dark Matter decays. Moreover, sterile neutrinos have non-thermal momentum distributions that depend on the way they were produced in the early universe and may have left an observable imprint in the small scale distribution of matter in the universe. Finally, it has been proposed to search for sterile neutrino Dark Matter “directly” in high precision measurements of tritium beta decay spectra. We summarise recent progress in constraining the sterile neutrino DM scenario from theory, experiment and astronomical observation.

Primary author: DREWES, Marco (Technische Universitaet Muenchen (DE))

Presenter: DREWES, Marco (Technische Universitaet Muenchen (DE))

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