

Light Sterile Neutrinos: A Modern Picture and a Model to Evade Cosmology

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Terrestrial and solar neutrino experiments have a variety of anomalous data that has resisted clarification. Recently, it has appeared that measurements of neutrinos from intense sources on gallium have passed 5σ and other hints from MicroBooNE and elsewhere remain interesting. I will present the latest update of these anomalies. I will then explain the primary reasons why these cannot be simply interpreted as a 1 eV sterile neutrino due to constraints from other experimental probes, notably solar neutrinos and cosmological data sets. I will present a novel, simple model that evades many of these constraints by adding in one new particle, which is the dark matter, beyond a sterile neutrino leading to shape-shifting sterile neutrinos.

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