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Sterile Neutrino Dark Matter Models: The X-Ray Line and Small-Scale Structure¹ ANTON NAVAZO, ISABELLA IANORA, CHAD KISHIMOTO, Univ of San Diego — Recent X-ray observations of galaxies and galaxy clusters may be evidence of sterile neutrino dark matter with a mass of 7.1 keV. However, the simplest production mechanism for this dark matter candidate produces dark matter spectra that are in tension with observed large scale structure. In this poster, we examine a variety of sterile neutrino dark matter models, including a variety of active-sterile neutrino coupling schemes and mixed dark matter models, comprised of both sterile neutrinos and cold dark matter. We assess the compatibility of these models with observation by calculating cosmological observables resulting from these production mechanisms.

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Anton Navazo
Univ of San Diego

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