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Abstract for an Invited Paper for the APR17 Meeting of the American Physical Society

The Status of Sterile Neutrino Dark Matter

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The sterile neutrino is a particle dark matter candidate with a host of observable signatures that is close to being fully tested. I will first review the implications for structure formation, comparing predictions of sterile neutrino cosmologies against observations. I will then review analyses of X-rays from dark matter concentrations in search of mono-energetic photons predicted from sterile neutrino dark matter decays. Structure formation and X-rays offer important complementary probes, and I will highlight the recent rapid progress in testing the sterile neutrino parameter space. I will also discuss implications of analyses leading to the detection of X-ray lines from clusters of galaxies and Andromeda.