



Searching for keV Sterile Neutrino Dark Matter with X-ray Microcalorimeter Sounding Rockets

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High-resolution X-ray spectrometers onboard suborbital sounding rockets can search for dark matter candidates that produce X-ray lines, such as decaying keV-scale sterile neutrinos. Even with exposure times and effective areas far smaller than XMM and Chandra observations, high-resolution, wide field-of-view observations with sounding rockets have competitive sensitivity to decaying sterile neutrinos. We analyze a subset of the 2011 observation by the XQC instrument, and show that better sensitivity is achievable with future observations of the galactic center by the Micro-X instrument, providing a definitive test of the sterile neutrino interpretation of the reported 3.56 keV excess from galaxy clusters.