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Prospects for Sterile Neutrino Observations with the Micro-X Sounding Rocket ANTONIA HUBBARD, Northwestern Univ, MICRO-X COLLABORATION — The Micro-X sounding rocket uses a Transition Edge Sensor (TES) array to make X-ray observations. The improved energy resolution of TESs compared to traditional space-based X-ray detectors brings new precision to both supernova observations and the X-ray search for sterile neutrino dark matter. Current X-ray observations disagree over the potential presence of a 3.5 keV X-ray line consistent with a sterile neutrino interaction, and Micro-X is in a unique position to establish or refute the presence of this line. We present the design considerations of the instrument and expectations for flight observations, with special emphasis given to the prospects of sterile neutrino studies.

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