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Current x-ray detection research and development for the HUNTER collaboration FRANK MALATINO, University of Houston — The Heavy Unseen Neutrino Total Energy Reconstruction (HUNTER) collaboration is developing a method to detect sterile neutrinos at the keV level. This sterile neutrino could complete the neutrino family, while interacting with other standard neutrinos via a much lower coupling strength. HUNTER is developing a method of measuring the vector momentum of all decay products involved in the subsequent K-capture events of the beta decay of atoms suspended in a magneto-optical trap. Non-conservation of momentum would constitute a keV range sterile neutrino. Detection of the mono-energetic x-rays, 32-36 keV, act as a trigger for the successive measurement of the remaining decay products. The current stage of development for the x-ray detection method will be presented.

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