

## Measurements of X-ray emission following charge exchange using an Electron Beam Ion Trap and a high resolution x-ray calorimeter spectrometer

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The Electron Beam Ion Trap (EBIT) has been used to measure x-ray emission following charge exchange recombination for almost two decades using the EBITs unique magnetic trapping mode. Starting in 2000 we added a high spectral resolution x-ray calorimeter spectrometer to the facility and have been using the combination of EBIT+x-ray calorimeter to make the only high spectral resolution measurements of x-ray emission from charge exchange. We now have more than a decade of measurements encompassing K-shell emission from several highly charged ions including Fe and O, and L shell emission from Fe and S. We have utilized many target species for these measurements and recently have introduced an atomic hydrogen source. The results of these measurements are rich, complex, and not well represented by theory, even for K shell emission. In this presentation we will describe the measurement technique, and some of the experiments carried out over the last decade.

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