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ASTROPHYSICAL PRIORITIES FOR ACCURATE X-RAY SPECTROSCOPIC DIAGNOSTICS

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The Astrophysical Plasma Emission Database (APED; see <http://cxc.harvard.edu/atomdb>) includes atomic data from a variety of calculations and laboratory measurements, some aimed at completeness, others at high accuracy. We discuss the priorities for accurate diagnostics, based on the current archive of high resolution spectra and on the projections for future X-ray spectroscopy, e.g. with Constellation-X. We illustrate with some specific comparisons of calculated line ratios with high signal-to-noise observations.