Abstract Submitted
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Dielectronic Recombination In Active Galactic Nuclei[1] D. LUKIĆ, D.W. SAVIN, M. SCHNELL, Columbia Astrophysics Laboratory, C. BRANDAU, E. SCHMIDT, S. SCHIPPERS, A. MÜLLER, Justus-Liebig-Universität, M. LESTINSKY, F. SPRENGER, A. WOLF, Max-Planck-Institut für Kernphysik, Z. ALTUN, Marmara University, N.R. BADNELL, University of Strathclyde — Recent X-ray satelitte observations of active galactic nuclei point out shortcomings in our understanding of low temperature dielectronic recombination (DR) for iron M- shell ions. In order to resolve this issue and to provide reliable iron M-shell DR data for modeling astrophysical plasmas, we are carrying out a series of laboratory measurements using the heavy-ion Test Storage Ring at the Max- Plank-Institute for Nuclear Physics in Heidelberg, Germany. Storage rings are currently the only laboratory method capable of studying low temperature DR. We use our results to produce experimentally- derived DR rate coefficients. We are also providing our data to atomic theorist to benchmark their DR calculations. Here we will report our recent DR results for selected Fe M-shell ions. At temperatures where these ions are predicted to form in photoionized gas, we find a significant discrepancy between our experimental results and previously recommended DR rate coefficients.

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