

Abstract Submitted
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X-Ray Absorption in Carbon Ions Near the K-Edge M.F. HASOGLU, SH. A. ABDEL-NABY, D. NIKOLIC, T.W. GORCZYCA, Department of Physics, Western Michigan University, Kalamazoo, MI 49008-5252, B.M. MCLAUGHLIN, School of Mathematics and Physics, Queens University of Belfast, Belfast BT7 1NN, Northern Ireland, UK — K-shell photoabsorption calculations are important for determining the elemental abundances of the interstellar medium (ISM) from observed X-ray absorption spectra. Previously, we performed reliable K-shell photoabsorption calculations for oxygen [1-3] and neon [4,5] ions. We have executed detailed R-matrix calculations for carbon ions, including Auger broadening, by using an optical potential, and relaxation effects, by using pseudoorbitals with the necessary pseudo-resonance elimination. This work was funded by NASA's Astronomy Physics Research and Analysis (APRA) and Solar and Heliospheric Physics (SHP) Supporting Research and Technology (SR&T) programs. References: [1] T. W. Gorczyca and B. M. McLaughlin. *J Phys. B.* 33 L859 (2000) [2] A. M. Juett, et al., *Astrophys. J.* 612, 308 (2004) [3] J. Garcia et al., *Astrophys. J. Supp. S.* 158, 68 (2005) [4] T. W. Gorczyca., *Phys. Rev. A.* 61, 024702 (2000) [5] A. M. Juett, et al., *Astrophys. J.* 648, 1066 (2006)

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