

Abstract Submitted
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Below Threshold Dielectronic Recombination for B^{2+} and C^{2+} A. B. NEMER, S. D. LOCH, M. S. PINDZOLA, Auburn University — Below threshold dielectronic recombination is investigated for $e + B^{2+}(1s^2 2s) \rightarrow B^+(1s^2 2p 3d)$ and for $e + C^{2+}(1s^2 2s^2) \rightarrow C^+(1s^2 2s 2p 3d)$. Relativistic atomic structure (GRASP) calculations are used to calculate energies and wavefunctions. Relativistic distorted-wave (AUTOSTRUCTURE) calculations are used to calculate radiative and autoionization rates. The dielectronic recombination rate coefficients were then used to make a synthetic spectrum for use in plasma diagnostics. Photoionized cold plasma temperature and abundance diagnostics are chiefly important for astrophysical applications that currently suffer from vast discrepancies.

¹NASA and DOE

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