Abstract Submitted
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Photoionization and Electron-Ion Recombination of Ne IV[1] SULTANA NAHAR, The Ohio State University — The inverse processes of photoionization and electron-ion recombination of Ne IV are being studied. The unified method is used for self-consistent data for the inverse processes as needed for determination of ionization fractions in plasmas in photoinization equilibrium. Precise abundance of neon in the sun has remained in discrepant due to lack of accurate atomic data. Unified method implements the ab initio relativistic Breit-Pauli R-matrix method in the close coupling approximation. Photoionization cross sections and electron-ion recombination rates are calculated using a 20 level wave function expansion. Fine structure effect shows low energy resonant structures. Illustrative results for the inverse processes will be presented.

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