

Abstract Submitted
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Photoionization of Ne IV Fine Structure Levels¹ SULTANA NAHAR, The Ohio State University — Determination of Ne abundance, particularly in the sun, from the observed ionized neon lines has been a long standing problem. Ne IV-V lines are detected requiring accurate data for the atomic processes to carry out the spectral analysis. For precise astrophysical modelling, photoionization cross sections of Ne IV have been calculated for a large number of fine structure levels in the relativistic Breit-Pauli R-matrix method. Resonances due to Rydberg series of autoionizing states belonging to 19 excited core levels of configurations $2s^22p^2$, $2s2p^3$, and $2p^4$ are resolved with fine energy mesh. Near threshold resonances due to fine structure effects, not allowed in LS coupling, are found. Details of resonant structures and enhanced background due to Seaton resonances will be reported.

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