Atomic Data and Spectral Line Intensities for Ne III

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 32 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.Electron impact collision strengths, energy levels, oscillator strengths and spontaneous radiative decay rates are calculated for Ne III. The configurations used are 2s(sup 2) 2p(sup 4), 2s2p(sup 5), 2s(sup 2) 2p(sup 3)3s, and 2s(sup 2)3p(sup 3)3d giving rise to 57 fine-structure levels in intermediate coupling. Collision strengths are calculated at five incident energies, 5, 10, 15, 20, and 25 Ry. Excitation rate coefficients are calculated by assuming a Maxwellian electron velocity distribution at an electron temperature of logT, (K)5. 0, corresponding to maximum abundance of Ne III. Using the excitation rate coefficients and the radiative transition rates, statistical equilibrium equations for level populations are solved at electron densities covering the range of 10(exp 8)-10(exp 14) per cubic centimeter. Relative spectral line intensities are calculated. Proton excitation rates between the lowest three levels have been included in the statistical equilibrium equations. The predicted Ne III line intensities are compared with SERTS rocket measurements of a solar active region and of a laboratory EUV light source. This item ships from La Vergne,TN. Paperback.

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