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Collisional-radiative model for non-Maxwellian argon plasmas ALLAN STAUFFER, Department of Physics and Astronomy, York University, Toronto, Canada, DIPTI GOYAL, Department of Physics, Indian Institute of Technology, Roorkee, India, REETESH GANGWAR, Départment de Physique, Université de Montréal, Montréal, Canada, RAJESH SRIVASTAVA, Department of Physics, Indian Institute of Technology, Roorkee, India — We have applied our collisional radiative model [1] to inductively-coupled argon plasmas using a non-Maxwellian electron energy distribution function. We included detailed finestructure cross sections calculated by our relativistic distorted-wave method as well as ionization processes to determine the population of the important excited levels of argon in the plasma for pressures in the range of 1-25 mTorr. We will present detailed results of our calculations and compare these with recent measurements of Boffard et al [2,3] including emission line ratios that can be used to determine plasma temperatures.

[1] R K Gangwar, L Sharma, R Srivastava and A D Stauffer, J. Appl. Phys. 111, 053307 (2012)]

[2] J. B. Boffard, R. O. Jung, C. C. Lin and A. E. Wendt, Plasma Sources Sci. Technol. 19, 065001 (2010)

 [3] J. B. Boffard, R. O. Jung, C. C. Lin, L. E. Aneskavich and A. E. Wendt, J. Phy. D: Appl. Phys. 45, 045201 (2012)

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