

Abstract Submitted
for the GEC07 Meeting of
The American Physical Society

Measurements of electron temperature and argon metastable density by measuring optical emission in inductively coupled plasma.¹

YOUNG-KWANG LEE, KWANG-TAE HWANG, MIN-HYONG LEE, CHIN-WOOK CHUNG, Hanyang University — To obtain electron temperatures and argon metastable number densities at various powers (100 W to 1 kW) and pressures (2 mTorr to 20 mTorr), a spectroscopic method [1] is used. The method is based on the availability of experimental relative emission intensities of only four argon lines that originate from 4p argon levels. Electron temperatures measured by the optical emission lines are compared with those by a Langmuir probe. They were in close agreement. Furthermore, the metastable densities from the model were estimated and presented.

[1] D. Mariotti, Y Shimizu, T. Sasaki, N. Koshizaki, Appl. Phys. Lett. 89, 201502 (2006)

¹OES diagnostics metastable icp

Young-Kwang Lee

Date submitted: 15 Jun 2007

Electronic form version 1.4