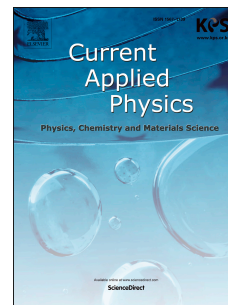


Accepted Manuscript

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PII: S1567-1739(17)30001-9

DOI: [10.1016/j.cap.2017.01.001](https://doi.org/10.1016/j.cap.2017.01.001)

Reference: CAP 4410

To appear in: *Current Applied Physics*

Received Date: 17 October 2016

Accepted Date: 3 January 2017

Please cite this article as: Y. Jeong, Y.J. Lee, D.-C. Kwon, H. Choe, Fluid simulation of a pulse-modulated, inductively coupled plasma discharge with radio frequency bias, *Current Applied Physics* (2017), doi: 10.1016/j.cap.2017.01.001.

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Fluid simulation of a pulse-modulated, inductively coupled plasma discharge with radio frequency bias

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Abstract

The plasma characteristics of pulse-modulated, radio frequency (RF) power in an inductively coupled plasma discharge were investigated. A two-dimensional axisymmetric structure was simulated based on the fluid model. In addition, the energy and mobility of neutral species were considered. When the power was switched to ON from OFF, the electron density and electron temperature changed instantaneously. When the power was OFF, we analyzed the profiles of the electron density and electron temperature over time. Moreover, the ion energy distribution function was investigated using several RF bias conditions.

Keywords: Plasma simulation, ICP discharge, Pulse ICP, RF-bias effect, GEC cell.

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