

Abstract Submitted  
for the GEC08 Meeting of  
The American Physical Society

**Finite volume formulation of low-temperature plasma equations and numerical solution in one dimension** MIRKO VUKOVIC, Tokyo Electron, U. S. Holdings — Differential transport equations for plasma are most commonly discretized using the finite difference formalism. More recently, discretizations based on the finite element method have also been used. An alternate method is the finite volume method which discretizes the integral conservation equations.<sup>1</sup> This method conserves flux across the grid cell interfaces. In this presentation, we present the discretization of plasma transport equations based on the finite volume formalism. We will discuss the discretization of the drift-diffusion, momentum, and electron kinetic equations based on this formalism. A one-dimensional problem will be solved for several DC and time-dependent cases.

<sup>1</sup>Numerical Heat Transfer and Fluid Flow, Suhas V. Patankar, McGraw-Hill, 1980

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Date submitted: 10 Jun 2008

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