



Numerical Simulation of Semiconductor Fabrication System

Ho Jun Kim, Ph.D.

Assistant Professor

Department of Mechanical Engineering

Dong-A University

Numerical methodology to design and modify the semiconductor fabrication system will be presented. This talk will explain the mathematical reasons why convection and diffusion of scalar fields should be carefully resolved in the reactive flows and plasma discharge simulation. And also a state-of-art numerical scheme named as “Spectral Element Method (SEM)” will be briefly introduced.

SEM is one of most suitable schemes to simulate discharge physics and minimize artificial diffusion in the reactive flow problems due to its spectral accuracy. Some application examples of numerical results will be provided. This talk will also enlighten why we need to consider not only the detailed flow feature but also complex discharge physics in order to obtain accurate numerical results of plasma discharge.