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## **TOPAZ2D/PC**

### **A Two - Dimensional Finite Element Heat Transfer Code for PC**

**TOPAZ2D/PC** is a two-dimensional implicit finite element computer code for heat transfer analysis, electrostatics and magnetostatics problems. The code can be used to solve for the steady or transient temperature field on two-dimensional planar or axisymmetric geometries. Material properties may be temperature dependent and either isotropic or orthotropic. A variety of time and temperature dependent boundary conditions can be specified including temperature, flux, convection and radiation. By implementing the user subroutine feature, users can model chemical reaction kinetics and allow for any type of functional representation of boundary conditions and internal heat generation.

**TOPAZ2D/PC** can solve problems of diffuse and specular band radiation in an enclosure coupled with conduction in the material surrounding the enclosure. Additional features include thermal contact resistance across an interface, bulk fluids, phase change and energy balances. Thermal stresses can be calculated using the solid mechanics code **NIKE2D** (available on PC for Windows95/98/2000/XP/ME and NT as well as DOS Operating System from GAE also), which reads the temperature state data calculated by **TOPAZ2D**.

Although originally intended for heat transfer analysis, **TOPAZ2D/PC** has been used to solve problems in electrostatics and magnetostatics. **TOPAZ2D/PC** offers an effective alternative for these problems. A simplified input data for E&M problems is included in the package. To order this code, please contact **Galaxy Advanced Engineering, Inc.** at (650) 740-3244.