

# Computer Models For Fire and Smoke

*Model Name:* RMFIRE

*Very Short Description:* A 2-dimensional field model for the transient calculation of smoke movement in room fires.

*Modeler, Organization:* George V. Hadjisophocleous, National Fire Laboratory, Institute for Research in Construction, national Research Council of Canada.

*References:* Hadjisophocleous, G.V. and Yakan, A., "Computer modeling of compartment fires," Internal Report No. 613, Institute for Research in Construction, National Research Council of Canada, 1991.

*Availability:* Model will become available in the future. Calculations can be made by NRCC at present.

*Hardware:* Silicon Graphics Personal IRIS

*Language:* ANSI FORTRAN 77

*Size:* 150 kB

*Detailed Description:*

RMFIRE is a 2-dimensional field model for unsteady smoke movement and heat transfer calculations in the fire compartment. The governing equations are solved in boundary-fitted coordinate systems which allow compartments with irregular geometries to be considered.

*Inputs:*

Boundary conditions, initial conditions, fire heat release rate.

*Outputs:*

Temperature, velocity and pressure values within the compartment as a function of time.