Computer Models For Fire and Smoke

Model Name: RADIATION

Version: 3.6

Date: 2007

Classification: Radiant heat from multiple emitters

Very Short Description: Computes the heat flux from up to 20 emitters of 3 orientations and builds map of heat flux distribution across a square surface – part of FIREWIND collection

Modeler(s), Organization(s): Victor O. Shestopal, Fire Modelling & Computing, Sydney, Australia

User's Guide: Manual of FIREWIND

Technical References: Manual of FIREWIND

Validation References: Shestopal V.O. "Computer modelling of heat radiation from several emitters with applications". International Journal on Engineering Performance-Based Fire Codes, V. 4, No. 4, 112-118 (2002).

Availability: Distributed by Fire Modelling & Computing by e-mail

Price: $Aus400, or $US350 (the entire FIREWIND package)

Necessary Hardware: Microsoft WINDOWS

Computer Language: C

Size: Approximately 600 kB (the entire package of 18 programs)

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Detailed Description:

RADIATION calculates intensity of heat radiation impressed onto the receptors of orientation corresponding to maximum heat flow values. The program allows for up to 20 rectangular emitters for each of three orthogonal orientations.

This software has proved to be useful for performance based verification of the likelihood of fire spread between adjacent buildings. The application of verification method CV1 of the Building Code of Australia is discussed in detail.