Computer Models
For
Fire and Smoke

Model Name:	DSLAYV
Version:	1.0
Classification:	Zone model
Very Short Description:	A zone model to predict the environment in a single compartment
Modeler(s), Organization(s):	National Defence Research Institute, Stockholm, Sweden
User's Guide:	A user´s guide for DSLAYV: Simulating fires in natural and forced ventilated enclosures, Foa Report C20637, 1986
Technical References:	A technical reference for DSLAYV: Simulating fires in natural and forced ventilated enclosures, Foa Report C20637, 1986
Validation References:	Hägglund, B., Simulating fires in natural and forced ventilated enclosures, FOA Report C20637, 1986. Hägglund, B., Jansson, R. & Nireus, K., Smoke filling experiments in a 6 x 6 x 6 meter enclosure, Foa Report C20585, 1985. Bengtson, S. & Hägglund, B., The use of a zone model in fire engineering applications, The First International Symposium on Fire Safety Science, Gaithersburg, USA, 1985. Bengtson, S., & Hägglund, B., DSLAYV, a helpful engineering tool, J. Applied Fire Science, Vol 1, pp 7-21, 1990. Hägglund, B., Comparing fire models with experimental data, Foa Report C20864, 1992.

Availability:	Available from Brandskyddslaget P.O. Box 9196, S-102 73 Stockholm
Price:	There is no cost for the program but there is an appropriate cost for the distribution and documentation of the program.
Necessary Hardware:	IBM compatible MS-DOS computer
Computer Language:	Pascal
Size:	600 kB
Contact Information:	Staffan Bengtson staffan.bengtson@brandskyddslaget.se

Detailed Description:

DSLAYV is a computer program for simulating a growing fire in a single enclosure. The single space is divided into two homogeneous zones. The rate of heat release is defined for the fire and the conservation equations are solved for the zones. The model predicts the growth of ceiling layer, heat and smoke conditions as a function of fire size, room geometry and ventilation conditions. The ventilation can be forced (mechanical ventilation) or non-forced (natural ventilation) and the openings to the outside can be vertically or horizontally oriented.