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BFRL FIRE PUBLICATIONS, 1993

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Gaithersburg, MD 20899

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U.S. Department of Commerce
Ronald H. Brown, *Secretary*
Technology Administration
Mary L. Good, *Under Secretary for Technology*
National Institute of Standards and Technology
Arati Prabhakar, *Director*

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ABSTRACT

BFRL Fire Publications, 1993 contains references to the publications prepared by the members of the Building and Fire Research Laboratory (BFRL) fire research staff, by other National Institute of Standards and Technology (NIST) personnel for BFRL, or by external laboratories under contract or grant from the BFRL during the calendar year 1993. Building program staff citations will appear in a combined publication entitled *Building and Fire Research Laboratory Publications, 1993*; it will be published later.

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1. Author Index Arranged by First Author

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Michigan State Univ., East Lansing
NIST-GCR-93-621; Annual Progress Report; 28 p. April 1993.
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B

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Bench-Scale Predictions of Mattress and Upholstered Chair Fires: Similarities and Differences.
National Institute of Standards and Technology, Gaithersburg, MD
NISTIR 5152; 22 p. March 1993.
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PB93-186005
mattresses; upholstered furniture; fire hazards; fire tests; heat release rate; scaling; fire spread; prisons
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Letter to the Editor.
National Institute of Standards and Technology, Gaithersburg, MD
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Specimen Heat Fluxes for Bench-Scale Heat Release Rate Testing.
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 release rate

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smoke detectors; heat detectors; residential buildings; standards;
technology utilization

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tests; room fires; smoke
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mathematical models; zone models
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Discharge of Fire Suppression Agents From a Pressurized Vessel: A
Mathematical Model and Its Application to Experimental Design.
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discharge pressure; halons

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fire risk; fire tests; flame spread; halons; plumes; suppression; water;
smoke

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protection

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turbulence; heat transfer; case histories; data analysis

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Developments Needed to Expand the Role of Fire Modeling in Material Fire Hazard Assessment.
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emergency planning; fire safety; handicapped; NFPA 101; residential
buildings; sprinklers
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absorptivity; spectral emissivity
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acoustic properties; acoustic sensors; fire detection; ionization
detectors; walls; ceilings; noise (sound)

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Agent Screening for Halon 1301 Aviation Replacement.
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Congerence, 1993. Stratospheric Ozone Protection for the 90's. October
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halons; ozone; halon 1301; thermal properties; dispersions; fluid
mechanics; flame extinguishment; flammable materials
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93-WA/HT-23;
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halons; halon 1301; in-flight fires; fire protection; air velocity;
injection; nitrogen; pressure
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Validation of a Turbulent Spray Flame Facility for the Assessment of Halon
Alternatives.
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for Global Environmental Technologies; National Association of Fire
Equipment Distributors, Inc.; Halon Alternative Research Corp.; Fire
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halons; validation; experiments; air velocity; injection; nitrogen; air
temperature

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U.S. Fires in "Board and Care" Homes Matrix Display of Selected Fatal
Fires. Special Analysis.
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board and care homes; building codes; building construction; building
fires; death; egress; evacuation; exits; fire investigations; fire
protection; human behavior

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Soot.
National Institute of Standards and Technology, Gaithersburg, MD
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soot; health hazards; flame radiation; carbon monoxide; soot formation;
flame research; smoke yield; smoke production
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Structure of Inhibited Counterflowing Nonpremixed Flames.
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Illinois Univ., Chicago
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for Global Environmental Technologies; National Association of Fire
Equipment Distributors, Inc.; Halon Alternative Research Corp.; Fire
Suppression Systems Assoc.; and Hughes Associates, Inc. Halon Alternatives
Technical Working Conference 1993. Proceedings. May 11-13, 1993,
Albuquerque, NM, 503-510 pp, 1993.
halons; suppression; flame structure; methodology; flame extinguishment
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Laser-Induced Fluorescence Measurements of Formaldehyde in a Methane/Air
Diffusion Flame.
National Institute of Standards and Technology, Gaithersburg, MD
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diffusion flames; formaldehyde; lasers; fluorescence

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Rutgers, The State University of New Jersey, New Brunswick
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fire research; building technology; earthquakes; refrigerants; fire
suppression
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Evolution of a United States Information System.
National Institute of Standards and Technology, Gaithersburg, MD
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information dissemination; libraries; information retrieval
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FIREDOC Users Manual. 3rd Edition.
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databases; fire engineering; fire research; fire safety; information
retrieval; information dissemination; manuals
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Information Transfer in the 21st Century.
National Institute of Standards and Technology, Gaithersburg, MD
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information dissemination; libraries; technology transfer
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Locating Fire Engineering Information.
National Institute of Standards and Technology, Gaithersburg, MD
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information retrieval; fire research; fire protection engineering; fire
science; databases; information storage

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NIST Building and Fire Research Laboratory Publications, 1992.
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fire suppression
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Summaries of BFRL Fire Research In-House Projects and Grants, 1993.
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fires; hazards; ignition; polymers; soot; smoke; sprinklers
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compartments; zone models; equations; buoyant flow
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Modeling Smoke Movement Through Compartmented Structures.
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Inst., Ibaraki, Japan, Fire Research Inst., Tokyo, Japan, 34-41 pp, 1992.
smoke; compartment fires; fire growth; mathematical models; numerical
models; room fires; toxicity

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radiation; thermal stresses; vents; equations; temperature profiles; heat
flux

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enclosures; turbulent jets; flow fields; heat transfer; flow visualization;
penetration
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Polymers.
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heat release; fire hazard; sampling; flammability; polycarbonates; cone
calorimeters; char; heat release rate; heat of combustion; soot; flame
spread; flame spread rate
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Non-Halogenated, Flame Retarded Polycarbonate.
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aircraft interiors; fire resistant materials; test methods; fire safety;
polycarbonates; cone calorimeters; flame spread; furniture calorimeters;
siloxanes; heat release rate; ignition delay; char

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Air Moving Systems and Fire Protection.
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air movement; air conditioning; fire protection; fire safety; heating;
smoke control; stairwells; ventilation systems
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Design of Smoke Control Systems for Areas of Refuge.
National Institute of Standards and Technology, Gaithersburg, MD
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smoke control; refuge; elevators (lifts); evacuation; handicapped; life
safety
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Design of Smoke Control Systems for Areas of Refuge.
National Institute of Standards and Technology, Gaithersburg, MD
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smoke control; refuge; elevators (lifts); evacuation; handicapped; life
safety
55. Klote, J. H.
Method for Calculation of Elevator Evacuation Time.
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elevators (lifts); evacuation time; computer programs; people movement;
time; emergencies
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evacuation; elevators (lifts); smoke control; staging areas; human beings;
water; sprinklers

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diffusion flames; fire plumes; fire research; optical properties; Rayleigh
light scattering; soot

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On Two Numerical Techniques for Light Scattering by Dielectric Agglomerated
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agglomerates; light scattering; smoke; equations

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fire tests; flooring radiant panel test; hazard assessment; radiant flux
profile
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board and care homes; egress; elderly persons; evacuation; fire safety
codes; handicapped; NFPA 101; residential buildings; sprinklers
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Cross-Linked Poly(methyl methacrylate).
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polymethylmethacrylate; thermal stability; char formation; crosslinking;
thermal degradation

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