Int. J. Heat Mass Transfer. Vol. 34, No. 1, pp. 329–330, 1991
Pergamon Press plc. Printed in Great Britain

ANNOUNCEMENTS

Short Courses

on

Multiphase Flow and Heat Transfer: Bases, Modelling and Applications in: (A) The Nuclear Power Industry; (B) The Process Industries

Hosted by
Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, 18–22 March 1991

THE MODULAR courses feature a coordinated, comprehensive series of lectures by experts and are of interest to practising engineers and to researchers who wish to obtain a condensed and critical view of the present basic knowledge (Part I) or information on the state of the art regarding applications in specialized industries (Parts IIA and IIB).

The courses aim at an interdisciplinary transfer of knowledge. Emphasis this year is on numerical methods and codes, nuclear and non-nuclear severe accident phenomena, and oil–gas transport.

THE LECTURERS

Sanjoy Banerjee, Professor at the Department of Chemical and Nuclear Engineering, University of California–Santa Barbara.

Michael L. Corradini, Professor of Nuclear Engineering and Engineering Physics at the University of Wisconsin, Madison.

Gad Hetsroni, Danciger Professor of Engineering at Technion–Israel Institute of Technology, Haifa.

Geoffrey F. Hewitt, Professor of Chemical Engineering at Imperial College, London.

Rene V. A. Oliemans, Head of the Fluid Flow Section at the Koninklijke/Shell Laboratorium in Amsterdam (KSLA) and Visiting Professor of Multiphase Flow at the Technical University of Delft.

George Yadigaroglu, Professor of Nuclear Engineering at the Swiss Federal Institute of Technology in Zurich (ETHZ) and Head of the Thermal-Hydraulics Laboratory at the Paul-Scherrer Institute.

CONTENTS OF LECTURES

Part I. *Bases*
1. Introduction and basics.
2. Basic equations.
3. Flow regimes, pressure drop and void fraction.
4. Two-phase flow in vertical pipes.
5. Two-phase flow in horizontal and inclined pipes.
6. Closure relationships.
7. Two-phase heat transfer.
8. Post-dryout heat transfer.
9. Numerical methods.
10. Multidimensional modelling.
11. Computer codes.
12. Instabilities in two-phase flow.

Part IIA. *Water reactor applications*
13A. LOCA phenomena.
14A. Severe accidents.
15A. Codes for transient and accident analysis.
16A. Severe accident codes.
17A. Steam generators.
18A. Vapor explosions.

Part IIB. *Process and petroleum industry applications*
13B. Multicomponent heat and mass transfer.
14B. Emergency relief system vent sizing.
15B. Two-phase flow in the petrochemical industry.
16B. Dense gas and mist dispersions.
17B. Oil/water/gas flows: characteristics and measurement.
18B. Vapor–cloud explosions.

For further information contact:

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Workshop

Benchmark Computation and Experiment for Turbulent Natural Convection in a Square Cavity

J. M. Burgers Centre, Delft University of Technology, The Netherlands, 25–27 March 1992

Organized by EUROTHERM and ERCOFTAC

SCOPE

THE AIM of this workshop is to obtain both computational and experimental benchmark results for the turbulent natural-convection flow of fluid in the square cavity with differentially heated vertical side walls. It is an extension of the earlier laminar benchmark by De Vahl Davis and Jones. A standard two-dimensional case, including a k–ε turbulence model, is defined for the computations. Also experiments preferably have to be performed for the standard con-

figuration. In addition to the standard case, participants are requested to extend their calculations and/or experiments to somewhat modified configurations, conditions and turbulence models. Both the standard and additional results will give a complete picture of the state-of-the-art knowledge of turbulent natural convection in heating-from-the-side cavities.

PARTICIPATION

The complete problem definition can be obtained from the secretariat of the workshop. Scientists who intend to participate should inform the secretariat before 1 March 1991.

SECRETARIAT

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