

INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER

VOLUME 7 1964

BOARD OF EDITORS

E. A. BRUN

Paris

A. J. EDE

East Kilbride, Scotland

CARL GAZLEY, Jr.

Santa Monica, Calif.

U. GRIGULL

München, Germany

J. P. HARTNETT

Newark, Delaware

A. V. LUIKOV

Minsk, B.S.S.R.

TAKASHI SATŌ

Kyoto, Japan

D. B. SPALDING

London

Assisted by an Honorary Editorial Advisory Board

Co-chairmen

E. R. G. ECKERT

Minneapolis, Minn.

O. A. SAUNDERS

London

PERGAMON PRESS LTD.

OXFORD • LONDON • NEW YORK • PARIS

INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER

BOARD OF EDITORS

- E. A. BRUN, 8 place du Commerce, Paris 15ème, France
A. J. EDE, Dept. of Scientific & Industrial Research, National Engineering Laboratory,
East Kilbride, Glasgow, Scotland
CARL GAZLEY, JR., Aeronautics Dept., The RAND Corporation,
1700 Main Street, Santa Monica, California, U.S.A.
U. GRIGULL, Technische Hochschule, München, Arcisstrasse 21, Germany
J. P. HARTNETT, Dept. of Mechanical Engineering, University of Delaware, Newark, Delaware, U.S.A.
A. V. LUIKOV, Heat and Mass Transfer Institute, Academy of Science, 25 Podlesnaya, Minsk, B.S.S.R., U.S.S.R.
TAKASHI SATŌ, Dept. of Mechanical Engineering, Kyoto University, Kyoto, Japan
D. B. SPALDING, Mechanical Engineering Dept., Imperial College of Science & Technology,
Exhibition Road, London S.W.7, England

HONORARY EDITORIAL ADVISORY BOARD

Co-chairmen:

- E. R. G. ECKERT, *University of Minnesota, Minneapolis, Minnesota, 55455, U.S.A.*
O. A. SAUNDERS, *Imperial College, London, England*

F. BOŠNJAČKOVIĆ, *Stuttgart*
THOMAS W. F. BROWN,
Wallsend, England
A. F. CHUDNOVSKY, *Leningrad*
Z. F. CHUKHANOV, *Moscow*
J. W. CIBOROWSKI, *Warsaw*
H. CORDIER, *Poitiers*
A. CRAYA, *Grenoble*
S. R. DE GROOT, *Amsterdam*
R. G. DEISSLER, *Cleveland, Ohio*
ROBERT M. DRAKE, JR.,
Lexington, Kentucky
T. B. DREW, *New York*
H. W. EMMONS,
Cambridge, Massachusetts
A. ENDRÉNYI, *Budapest*
R. GOULARD, *Lafayette, Indiana*
P. GRASSMANN, *Zürich*
L. G. HAMBURGER, *Bucharest*
TADEUSZ HOBLER,
Gliwice, Poland
J. N. HOOL
Kensington, New South Wales
H. C. HOTTEL,
Cambridge, Massachusetts

BUSUKE HUDIMOTO, *Kyoto*
T. F. IRVINE, JR.,
Stony Brook, New York
J. KESTIN,
Providence, Rhode Island
S. P. KEZIOS, *Chicago, Illinois*
D. T. KOKOREV, *Moscow*
P. K. KONAKOV, *Moscow*
O. KRISCHER, *Darmstadt*
P. M. C. LACEY, *Harwell, England*
P. D. LEBEDEV, *Moscow*
E. J. LE FEVRE, *London*
SALOMEN LEVY,
San Jose, California
PAUL A. LIBBY,
La Jolla, California
DAVID J. MASSON,
Santa Monica, California
TOKURO MIZUSHINA, *Kyoto*
Y. MORI, *Tokyo*
W. MURGATROYD, *London*
SIMON OSTRACH,
Cleveland, Ohio
R. L. PIGFORD, *Newark, Delaware*
A. A. POMERANTSEV, *Moscow*

A. S. PREDVODITELEV, *Moscow*
A. RAMACHANDRAN, *Bangalore*
J. F. RICHARDSON,
Swansea, England
WARREN M. ROHSENOW,
Cambridge, Massachusetts
PETER H. ROSE,
Everett, Massachusetts
ERNST SCHMIDT, *München*
H. SCHUH, *Linköping, Sweden*
A. W. SCOTT, *Glasgow*
R. A. SEBAN,
Berkeley, California
E. M. SPARROW,
Minneapolis, Minnesota
D. A. SPENCE,
Farnborough, England
F. TACHIBANA, *Tokyo*
M. W. THRING, *Sheffield*
Y. S. TOULOUKIAN,
West Lafayette, Indiana
MYRON TRIBUS,
Hanover, New Hampshire
J. W. WESTWATER,
Urbana, Illinois
K. YAMAGATA, *Hakozaki, Japan*

Annual Subscription Rates

- A. For libraries, government establishments, research laboratories, etc. . . . £26 (\$75.00).
B. For individuals who place their orders directly with the publisher and certify that the journal is for their personal use . . . £5 5s (\$15.00).

Copyright Pergamon Press Ltd. © 1964

PERGAMON PRESS LTD

Headington Hill Hall, Oxford

122 East 55th Street, New York 22, N.Y.

CONTENTS

January

Special Issue—Centenary Tribute to Richard Mollier

	PAGE
F. BOŠNIJAKOVIĆ: Richard Mollier zum 100. Geburtstag	1
D. B. SPALDING: A transformation of the Mollier $i \sim x$ diagram	3
C. CODEGONE: Some properties of the pressure-entropy diagram	11
A. ENDRÉNYI: R. Mollier und das i - x -Diagram	15
U. GRIGULL: Das Prinzip von Le Chatelier und Braun	23
F. G. KEYES and R. G. VINES: The thermal conductivity of steam	33
J. OTTO und W. THOMAS: Die thermischen Zustandsgrößen von 1,1-Difluoräthylen	41
E. U. SCHLÜNDER: Temperatur- und Massenänderung verdunstender Tropfen aus reinen flüssigkeiten und wässrigen Salzlösungen	49
C. F. KAYAN: Analysis of energy-transport performance of machines via the resistance concept	75
D. T. WASAN and C. R. WILKE: Turbulent exchange of momentum, mass, and heat between fluid streams and pipe wall	87
T. MIZUSHINA, H. UEDA, S. IKENO and K. ISHII: Simplified calculation for cooler condensers for gas-multicomponent vapour mixtures	95
I. MICHIYOSHI and R. MATSUMOTO: Heat transfer by Hartmann's flow in thermal entrance region	101
H. HAUSEN: Berechnung der Wärmeübertragung in Regeneratoren bei Temperaturabhängigen Stoffwerten und Wärmeübergangszahlen	113

February

L. M. K. BOELTER and E. L. KNUTH: The works of Richard Mollier	125
J. DOENECKE: Contribution à l'étude de la convection forcée turbulente le long de plaques rugueuses	133
H. C. PERKINS JR. and G. LEPPERT: Local heat-transfer coefficients on a uniformly heated cylinder	143
L. DUCKSTEIN and J. E. CERMAK: Electrokinetic-potential fluctuations generated by jet impingement	159
R. C. MALHOTRA and J. E. CERMAK: Mass diffusion in neutral and unstably stratified boundary-layer flows	169
V. E. DOROSHCHUK and F. P. LANTSMAN: Effect of pressure and mass flow rate on burnout heat fluxes in a water and steam-water mixture flow in tubes	187
E. RUCKENSTEIN: A physical model for nucleate boiling heat transfer	191
T. SATŌ and T. MINAMIYAMA: Viscosity of steam at high temperatures and pressures	199
P. GRASSMANN and I. J. HAUSER: Heat transfer from wire to subcooled and boiling water	211
J. C. ROTT: Temperaturverteilungen in der turbulenten Grenzschicht an der ebenen Platte	215
E. M. SPARROW: The effect of radiation on film-boiling heat transfer	229
M. L. MITTAL: Heat transfer by laminar flow in a circular pipe under transverse magnetic field	239
C. L. TIEN and J. TSUJI: Heat transfer by laminar forced flow against a non-isothermal rotating disk	247
E. E. BERKAU and G. T. FISHER: Soret cell diffusion in two anion-two cation salt solutions	253
E. R. G. ECKERT, E. M. SPARROW, W. E. IBELE and R. J. GOLDSTEIN: Heat transfer bibliography	257
T. SATŌ: Heat transfer bibliography—Japanese works	267
<i>Shorter Communications</i>	
S. C. TRAUGOTT and K. C. WANG: On differential methods for radiant heat transfer	269
E. L. KNUTH: An engineering approximation for resistances of certain two-dimensional conductors	270
E. L. LE FEVRE and J. W. ROSE: Heat-transfer measurements during dropwise condensation of steam	272
<i>Report</i>	275

	PAGE
<i>Book Reviews</i>	279
<i>Contents Lists</i>	281
Journal of Engineering Physics	281
March	
T. R. GALLOWAY and B. H. SAGE: Thermal and material transfer in turbulent gas streams—a method of prediction for spheres	283
I. R. MIKK: Approximation calculation of radiant heat transfer in a duct of rectangular cross section	293
N. Y. ÖLÇER: On the theory of conductive heat transfer in finite regions	307
F. P. FORABOSCHI and I. DI FEDERICO: Heat transfer in laminar flow of non-Newtonian heat-generating fluids	315
A. BROWN and E. MARKLAND: Temperature distribution in cooled turbine disks	327
S. YAGI, D. KUNII and K. ENDO: Heat transfer in packed beds through which water is flowing	333
R. T. DAVIS and I. FLÜGGE-LOTZ: The laminar compressible boundary-layer in the stagnation-point region of an axisymmetric blunt body including the second-order effect of vorticity interaction	341
A. V. LUKOV: Heat transfer bibliography—Russian works	371
<i>Shorter Communications</i>	
O. E. TEWFIK: Discussion on the effect of transverse mass flow on heat transfer and friction drag in a turbulent flow of compressible gas along an arbitrarily shaped surface	397
W. SQUIRE: A comment on the turbulent momentum diffusivity within a circular tube	398
<i>Book Reviews</i>	401
<i>Contents List</i>	405
Journal of Engineering Physics	405
<i>Erratum</i>	406
April	
Editorial Note	407
O. E. TEWFIK: One-dimensional mass and heat transfer and their coupling	409
A. LÁSZLÓ: Systematization of dimensionless quantities by group theory	423
C. J. HSU: Analytical study of heat transfer to liquid metals in cross-flow through rod bundles	431
W. LEIDENFROST: An attempt to measure the thermal conductivity of liquids, gases, and vapors with a high degree of accuracy over wide ranges of temperature (-180 to 500°C) and pressure (vacuum to 500 atm)	447
B. GEBHART: Natural convection cooling transients	479
E. R. G. ECKERT, E. M. SPARROW, W. E. IBELE and R. J. GOLDSTEIN: Heat transfer bibliography	485
<i>Contents Lists</i>	
Journal of Engineering Physics	499
<i>Erratum</i>	500
May	
M. G. SCHERBERG: Natural convection from wall sections of arbitrary temperature distribution by an integral method	501
J.-P. DELPONT: Influence du flux de chaleur et de la nature du gaz sur les coefficients d'échange dans un tube cylindrique lisse	517
J. ALLARD: The equation of a square in heat transfer	527
J. W. CARY: An evaporation experiment and its irreversible thermodynamics	531
A. S. EMANUEL and D. R. OLANDER: High flux solid-liquid mass transfer	539
L. H. BACK, P. F. MASSIER and H. L. GIER: Convective heat transfer in a convergent-divergent nozzle	549
G. A. MIKHAILOVSKY: Dynamic processes which accompany mass transfer	569
<i>Shorter Communications</i>	
M. CHOGNOT: Une méthode de mesure de températures de surface utilisant la sensibilité thermique de la luminescence	577
H. BARROW and Y. LEE: Heat transfer with unsymmetrical thermal boundary conditions	580
E. M. SPARROW, T. S. CHEN and V. K. JONSSON: Laminar flow and pressure drop in internally finned annular ducts	583

June	PAGE
T. HOBLER und A. BURGHARDT: Gasmengenmessung auf Grund der Temperaturdifferenz	587
G. B. DIEP: Étude expérimentale de l'échauffement aérodynamique de cylindres circulaires en attaque oblique dans un écoulement supersonique	607
T. TAKAMATSU, M. HIRAKA and K. TANAKA: Simultaneous heat and mass transfer between gas and liquid phases I.—Analysis of unsteady state transfer	621
T. TAKAMATSU, M. HIRAKA and K. TANAKA: Simultaneous heat and mass transfer between gas and liquid phases II.—Analysis of steady state transfer	631
P. NORDON: A model for mass transfer in beds of wool fibres	639
V. GOMELAURI: Influence of two-dimensional artificial roughness on convective heat transfer	653
T. L. PERELMAN: On one effect of control of a boundary layer on transfer processes	665
G. S. H. LOCK: Steady laminar free convection from inclined, arbitrarily shaped plane surfaces	669
R. EICHHORN: Effects of a modification to Ångström's method for the determination of thermal conductivity	675
R. G. DEISSLER: An analysis of second-order slip flow and temperature-jump boundary conditions for rarefied gases	681
<i>Book Reviews</i>	695
<i>Correction</i>	697
<i>Contents List</i>	
Journal of Engineering Physics	698

July	
A. F. GOLNICK JR.: An experimental study of thermal diffusion effects on a partially porous mass transfer-cooled hemisphere	699
J. R. S. THOM: Prediction of pressure drop during forced circulation boiling of water	709
W. JOBST: Measurement of thermal conductivities of organic aliphatic liquids by an absolute unsteady-state method	725
J. M. SAVINO and R. SIEGEL: Laminar forced convection in rectangular channels with unequal heat addition on adjacent sides	733
D. B. SPALDING: Contribution to the theory of heat transfer across a turbulent boundary layer	743
H. S. HEATON, W. C. REYNOLDS and W. M. KAYS: Heat transfer in annular passages. Simultaneous development of velocity and temperature fields in laminar flow	763
R. KLIER: Wärmeübergang und Druckverlust bei quer angestromten, gekreuzten Rohrgittern	783
M. NOVAKOVIĆ and M. STEFANOVIĆ: Boiling from a mercury surface	801
<i>Obituary</i>	
Sergei Ivanovich Kosterin	809
<i>Shorter Communications</i>	
J. C. Y. KOH: Laminar free convection from a horizontal cylinder with prescribed surface heat flux	811
J. H. LIENHARD: Some generalizations of the stability of liquid-gas-vapour systems	813
A. P. HATTON, A. QUARMBY and I. GRUNDY: Further calculations on the heat transfer with turbulent flow between parallel plates	817
<i>Contents List</i>	
Journal of Engineering Physics	825
<i>Erratum</i>	826

August	
E. R. G. ECKERT, E. M. SPARROW, W. E. IBELE and R. J. GOLDSTEIN: Heat transfer, a review of current literature	827
A. A. MCKILLOP: Heat transfer for laminar flow of non-Newtonian fluids in the entrance region of a tube	853

G. POOTS: Laminar free convection near the lower stagnation point on an isothermal curved surface	863
A. P. HATTON: Heat transfer through the turbulent incompressible boundary layer on a flat plate	875
R. GREIF: Energy transfer by radiation and conduction with variable gas properties	891
J. WOLF: General solution of the equations of parallel-flow multichannel heat exchangers	901
YU. P. SHLYKOV and YE. A. GANIN: Thermal resistance of metallic contacts	921
E. R. G. ECKERT, E. M. SPARROW, W. E. IBELE and R. J. GOLDSTEIN: Heat transfer bibliography	931
<i>Letter to the Editors</i>	
J. SALIN: Comments on Spalding's paper "A transformation of the Mollier <i>i-x</i> diagram"	949
<i>Shorter Communication</i>	
E. M. SPARROW and S. H. LIN: Heat-transfer characteristics of polygonal and plate fins	951
<i>Contents List</i>	
Journal of Engineering Physics	954

September

J. L. NOVOTNY and E. R. G. ECKERT: Experimental study of laminar convection in the channel between parallel plates with uniform heat sources in the fluid	955
D. HASSON, D. LUSS and R. PECK: Theoretical analyses of vapour condensation on laminar liquid jets	969
D. HASSON, D. LUSS and U. NAVON: An experimental study of steam condensation on a laminar water sheet	983
D. E. HARTLEY and W. MURGATROYD: Criteria for the break-up of thin liquid layers flowing isothermally over solid surfaces	1003
L. DUCHATELLE et L. VAUTREY: Détermination des coefficients de convection d'un alliage NaK en écoulement turbulent entre plaques planes parallèles	1017
P. D. LEBEDEV and V. G. PETROV-DENISOV: Hydrodynamics, heat and mass transfer in a bed of fine non-porous particles	1033
<i>Shorter Communication</i>	
R. VISKANTA: Concerning the definitions of the mean absorption coefficient	1047
<i>Contents List</i>	
Journal of Engineering Physics	1050

October

C. J. RALLIS and H. H. JAWUREK: Latent heat transport in saturated nucleate boiling	1051
W. SQUIRE: Turbulent heat and mass transfer in smooth pipes	1069
G. SCHÜTZ: Untersuchung des Stoffaustausch-Anlaufgebietes in einem Rohr bei vollausgebildeter Hydrodynamischer Strömung mit einer elektrochemischen Methode	1077
M. POREH and J. E. CERMAK: Study of diffusion from a line source in a turbulent boundary layer	1083
D. N. LYON: Peak nucleate-boiling heat fluxes and nucleate-boiling heat-transfer coefficients for liquid N ₂ , liquid O ₂ and their mixtures in pool boiling at atmospheric pressure	1097
M. THOMAS and S. S. PENNER: Thermal conduction and radiant energy transfer in stationary, heated air	1117
W.-J. YANG: Momentum, heat and mass transfer in logarithmic spiral flows of incompressible viscous fluids	1123
T. SATŌ: Heat transfer bibliography—Japanese works	1141
<i>Shorter Communications</i>	
N. MADSEN: Comments on the effect of axially varying and unsymmetrical boundary conditions on heat transfer with turbulent flow between parallel plates	1143
C. L. TIEN and R. GREIF: On the transition from black-body to Rosseland formulations in optically thick flows	1145

November

	PAGE
J. P. HARNETT and T. F. IRVINE, JR: Ernst R. G. Eckert—On the occasion of his sixtieth birthday	1147
G. R. INGER: Highly nonequilibrium boundary-layer flows of a multicomponent dissociated gas mixture	1151
A. R. BÜYÜKTÜR, J. KESTIN and P. F. MAEDER: Influence of combined pressure gradient and turbulence on the transfer of heat from a plate	1175
W. A. SUTHERLAND and W. M. KAYS: Heat transfer in an annulus with variable circumferential heat flux	1187
C. V. LINDERSTRØM-LANG: Gas separation in the Ranque-Hilsch vortex tube	1195
G. F. C. ROGERS and Y. R. MAYHEW: Heat transfer and pressure loss in helically coiled tubes with turbulent flow	1207
P. V. TSOI: Function of matrices and their application to boundary problems for a system of differential transport equations	1217
R. HOYLE and D. H. MATTHEWS: The effect of diameter size and speed of rotation on the heat transfer from steam to cooled cylinders	1223
T. W. GARRETT and J. L. WIGHTON: The effect of inclination on the heat-transfer coefficients for film condensation of steam on an inclined cylinder	1235
J. KESTIN and J. H. WHITELAW: The viscosity of dry and humid air	1245
H. SCHUH and B. PERSSON: Heat transfer on circular cylinders exposed to free-jet flow	1257
S. SIDEMAN and Y. TAITLE: Direct-contact heat transfer with change of phase: evaporation of drops in an immiscible liquid medium	1273
A. J. WILLMOTT: Digital computer simulation of a thermal regenerator	1291
J. L. HUDSON and S. G. BANKOFF: Asymptotic solutions for the unsteady Graetz problem	1303
N. K. D. CHOUDHURY and Z. U. A. WARSI: Weighting function and transient thermal response of buildings. Part I—Homogeneous structure	1309
Z. U. A. WARSI and N. K. D. CHOUDHURY: Weighting function and transient thermal response of buildings. Part II—Composite structure	1323
<i>Shorter Communications</i>	
J. C. M. LI: Thermokinetic analysis of heat conduction	1335
S. ESHGHY: Discussion on temperature distribution in channel flow with friction	1340
<i>Book Review</i>	1341
<i>Contents List</i>	
Journal of Engineering Physics	1343

December

Dedicated to the Memory of Allan Philip Colburn

Dedication: Allan Philip Colburn 1904–1955	1345
T. H. CHILTON: Allan Philip Colburn—the years with Du Pont	1347
R. L. PIGFORD: Allan Philip Colburn—the years in education	1353
<i>Pioneer Paper</i>	
A. P. COLBURN: A method of correlating forced convection heat-transfer data and a comparison with fluid friction	1359
L. BERNATH, P. D. COHN and T. J. SADOWSKI: Forced convection burnout for water in rod bundles at high pressures	1385
F. W. CHANG and A. E. DUKLER: The influence of a wavy, moving interface on pressure drop for flow in conduits	1395
C. GAZLEY JR: Deceleration and mass change of an ablating body during high velocity motion in the atmosphere	1405
T. MIZUSHINA, T. SASANO, M. HIRAYAMA, N. OTSUKI and M. TAKEUCHI: Effect of gas entrainment on liquid metal heat transfer	1419
J. P. GLAS and J. W. WESTWATER: Measurements of the growth of electrolytic bubbles	1427
<i>Papers to be published in future issues</i>	1445

AUTHOR INDEX

- ALLARD, J., 527
 BACK, L. H., 549
 BANKOFF, S. G., 1303
 BARROW, H., 580
 BERKAU, E. E., 253
 BERNATH, L., 1385
 BOELTER, L. M. K., 125
 BOŠNJAKOVIĆ, F., 1
 BROWN, A., 327
 BURGHARDT, A., 587
 BüYÜKTÜR, A. R., 1175
 CARY, J. W., 531
 CERMAK, J. E., 159, 169, 1083
 CHANG, F. W., 1395
 CHEN, T. S., 583
 CHILTON, T. H., 1347
 CHOGNOT, M., 577
 CHOUDHURY, N. K. D., 1309, 1323
 CODEGONE, C., 11
 COHN, P. D., 1385
 COLBURN, A. P., 1359
 DAVIS, R. T., 341
 DEISSLER, R. G., 681
 DELPONT, J.-P., 517
 DIEP, G. B., 607
 DI FEDERICO, I., 315
 DOENECKE, J., 133
 DOROSHCHUK, V. E., 187
 DUCHATELLE, L., 1017
 DUCKSTEIN, L., 159
 DUKLER, A. E., 1395
 ECKERT, E. R. G., 257, 485, 827, 931,
 955
 EICHHORN, R., 675
 EMMANUEL, A. S., 539
 ENDO, K., 333
 ENDRÉNYI, A., 15
 ESHGHY, S., 1340
 FISHER, G. T., 253
 FLÜGGE-LOTZ, I., 341
 FORABOSCHI, F. P., 315
 GALLOWAY, T. R., 283
 GANIN, YE. A., 921
 GARRETT, T. W., 1235
 GAZLEY JR., C., 1405
 GEBHART, B., 479
 GIER, H. L., 549
 GLAS, J. P., 1427
 GOLDSTEIN, R. J., 257, 485, 827, 931
 GOLLNICK JR., A. F., 699
 GOMELAURI, V., 653
 GRASSMANN, P., 211
 GREIF, R., 891, 1145
 GRIGULL, U., 23
 GRUNDY, I., 817
 HARTLEY, D. E., 1003
 HARTNETT, J. P., 1147
 HASSEN, D., 969, 983
 HATTON, A. P., 817, 875
 HAUSEN, H., 113
 HAUSER, I. J., 211
 HEATON, H. S., 763
 HIRAKA, M., 621, 631
 HIRAYAMA, M., 1419
 HOBLER, T., 587
 HOYLE, R., 1223
 HUDSON, J. L., 1303
 HSU, C. J., 431
 IBELE, W. E., 257, 485, 827, 931
 IKENO, S., 95
 INGER, G. R., 1151
 IRVINE JR., T. F., 1147
 ISHII, K., 95
 JAWUREK, H. H., 1051
 JOBST, W., 725
 JONSSON, V. K., 583
 KAYAN, C. F., 75
 KAYS, W. M., 763, 1187
 KESTIN, J., 1175, 1245
 KEYES, F. G., 33
 Klier, R., 783
 KNUTH, E. L., 125, 270
 KOH, J. C. Y., 811
 KUNII, D., 333
 LANTSMAN, F. P., 187
 LAZLO, A., 423
 LEBEDEV, P. D., 1033
 LEE, Y., 580
 LE FEVRE, E. L., 272
 LEIDENFROST, W., 447
 LEPPERT, G., 143
 LI, J. C. M., 1335
 LIENHARD, J. H., 813
 LIN, S. H., 951
 LINDERSTRØM-LANG, C. V., 1195
 LOCK, G. S. H., 669
 LUIKOV, A. V., 371
 LUSS, D., 969, 983
 LYON, D. N., 1097
 MAEDER, P. F., 1175
 MADSEN, N., 1143
 MALHOTRA, R. C., 169
 MARKLAND, A., 327
 MASSIER, P. F., 594
 MATSUMOTO, R., 101
 MATTHEWS, D. H., 1223
 MAYHEW, Y. R., 1207
 McKILLIP, A. A., 853
 MICHIYOSHI, I., 101
 MIKHAILOVSKY, G. A., 569
 MIKK, I. R., 293
 MINAMIYAMA, T., 199
 MITTAL, M. L., 239
 MIZUSHINA, T., 95, 1419
 MURGATROYD, W., 1003
 NAVON, U., 983
 NORDON, P., 639
 NOVAKOVIĆ, M., 801
 NOVOTNY, J. L., 955
 ÖLÇER, N. Y., 307
 OLander, D. R., 539
 OTSUKI, N., 1419
 OTTO, J., 41
 PECK, R., 969
 PENNER, S. S., 1117
 PERELMAN, T. L., 665
 PERKINS JR., H. C., 143
 PERSSON, B., 1257
 PETROV-DENISOV, V. G., 1033
 PIGFORD, R. L., 1353
 POOTS, G., 863
 POREH, M., 1083
 QUARMBY, A., 817
 RALLIS, C. J., 1051
 REYNOLDS, W. C., 763
 ROGERS, G. F. C., 1207
 ROSE, J. W., 272
 ROTT, J. C., 215
 RUCKENSTEIN, E., 191
 SADOWSKI, T. J., 1385
 SAGE, B. H., 283
 SALIN, J., 949
 SASANO, T., 1419
 SATŌ, T., 199, 167, 1147
 SAVINO, J. M., 733
 SCHERBERG, M. G., 501
 SCHLÜNDER, E. U., 49
 SCHUH, H., 1257
 SCHÜTZ, G., 1077
 SHLYKOV, YU. P., 921
 SIDEMAN, S., 1273
 SIEGEL, R., 733
 SPALDING, D. B., 3, 743
 SPARROW, E. M., 229, 257, 485, 583,
 827, 931, 951
 SQUIRE, W., 398, 1069
 STEFANOVIĆ, M., 801
 SUTHERLAND, W. A., 1187
 TAITEL, Y., 1273
 TAKAMATSU, T., 621, 631
 TAKEUCHI, M., 1419
 TANAKA, K., 621, 631
 TEWFIK, O. E., 397, 409
 THOM, J. R. S., 709
 THOMAS, M., 1117
 THOMAS, W., 41
 TIEN, C. L., 247, 1145
 TRAUGOTT, S. C., 269
 TSOI, P. V., 1217
 TSUJI, J., 247
 UEDA, H., 95
 VAUTREY, L., 1017
 VINES, R. G., 33
 VISKANTA, R., 1047
 WANG, K. C., 269
 WARSI, Z. U. A., 1309, 1323
 WASAN, D. T., 87
 WESTWATER, J. W., 1427
 WHITELAW, J. H., 1245
 WIGHTON, J. L., 1235
 WILKE, C. R., 87
 WILLMOTT, A. J., 1291
 WOLF, J., 901
 YAGI, S., 33
 YANG, W.-J., 1123