

INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER

VOLUME 5 1962

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, Institute of Energetics, Academy of Science, Podlesnaya 25, 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, U.S.A.*
O. A. SAUNDERS, *Imperial College, London, England*

- | | | |
|---|---|--|
| A. D. BAXTER, <i>Edgware</i> | W. R. HAWTHORNE,
<i>Cambridge, England</i> | R. L. PIGFORD, <i>Newark, Delaware</i> |
| J. E. BIALOKOZ, <i>Oxford</i> | T. HOBLER, <i>Gliwice</i> | A. A. POMERANTSEV, <i>Moscow</i> |
| L. M. K. BOELTER, <i>Los Angeles</i> | J. N. HOOL, <i>Sydney</i> | A. RAMACHANDRAN,
<i>Bangalore</i> |
| THOMAS W. F. BROWN,
<i>Wallsend</i> | H. C. HOTTEL,
<i>Cambridge, Massachusetts</i> | H. L. RITZ, <i>Karlsruhe</i> |
| F. BOŠNJAKOVIĆ, <i>Stuttgart</i> | BUSUKE HUDIMOTO, <i>Kyoto</i> | W. RIZK, <i>Whetstone</i> |
| A. F. CHUDNOVSKY, <i>Leningrad</i> | T. F. IRVINE, JR., <i>New York</i> | W. M. ROHSENOW,
<i>Cambridge, Massachusetts</i> |
| Z. F. CHUKHANOV, <i>Moscow</i> | ARTHUR KANTROWITZ,
<i>Cambridge, Massachusetts</i> | E. SCHMIDT, <i>München</i> |
| J. W. CIBOROWSKI, <i>Warsaw</i> | JOSEPH KESTIN, <i>Providence</i> | H. SCHUH, <i>Linköping</i> |
| MILTON U. CLAUSER,
<i>Los Angeles</i> | S. P. KEZIOS, <i>Chicago</i> | A. W. SCOTT, <i>Glasgow</i> |
| A. CRAYA, <i>Grenoble</i> | D. T. KOKOREV, <i>Moscow</i> | R. A. SEBAN, <i>Berkeley</i> |
| R. M. DRAKE, JR., <i>Princeton</i> | P. K. KONAKOV, <i>Moscow</i> | F. TACHIBANA, <i>Chiba City</i> |
| T. B. DREW, <i>New York</i> | S. I. KOSTERIN, <i>Moscow</i> | FUMIO TAMAKI, <i>Chiba City</i> |
| HOWARD EMMONS,
<i>Cambridge, Massachusetts</i> | P. D. LEBEDEV, <i>Moscow</i> | M. W. THRING, <i>Sheffield</i> |
| A. ENDRÉNYI, <i>Budapest</i> | E. J. LE FEVRE, <i>London</i> | Y. S. TOULOUKIAN,
<i>Lafayette, Indiana</i> |
| P. GRASSMANN, <i>Zürich</i> | P. A. LIBBY, <i>New York</i> | MYRON TRIBUS,
<i>Hanover, New Hampshire</i> |
| S. R. DE GROOT, <i>Leyden</i> | D. J. MASSON, <i>Santa Monica</i> | E. R. VAN DRIEST,
<i>Downey, California</i> |
| L. G. HAMBURGER, <i>Bucharest</i> | T. MIZUSHINA, <i>Kyoto</i> | K. YAMAGATA, <i>Fucūka City</i> |
| G. A. HAWKINS, <i>Lafayette, Indiana</i> | R. H. NORRIS, <i>Schenectady</i> | |
| | SIMON OSTRACH, <i>Cleveland</i> | |

Publishing Offices

- Pergamon Press Limited, Headington Hill Hall, Oxford, England
Pergamon Press Inc., 122 East 55th Street, New York 22, N.Y., U.S.A.

Annual Subscription Rates

- A. For libraries, government establishments, research laboratories, etc . . . £14 (\$40.00).
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. © 1962

PERGAMON PRESS LTD

Headington Hill Hall, Oxford

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

CONTENTS

January/February

	PAGE
V. A. KIRILLIN, A. E. SHEINDLIN and V. Y. CHEKHOVSKOI: Experimental determination of the enthalpy and heat capacity of molybdenum up to 2337°C	1
B. V. KANTOROVICH and G. N. DELYAGIN: Heat and mass transfer in the process of fuel combustion in an air stream	11
PAUL S. LYKOURDIS: Natural convection of an electrically conducting fluid in the presence of a magnetic field	23
H. L. EVANS: Mass transfer through laminar boundary layers—7. Further similar solutions to the b -equation for the case $B = 0$	35
SH. N. PLYAT: Heat and mass transfer of hollow circular cylinders under boundary conditions of the second kind	59
J. R. SINGHAM: Tables of emissivity of surfaces	67
<i>Shorter Communications</i>	
B. GEBHART: Comment on "Heat transfer from slotted finned tubes" by F. Cheers and J. N. Liley	77
D. B. SPALDING, W. M. PUN and S. W. CHI: Mass transfer through laminar boundary layers - Further exact "similar" solutions of the b -equation	79
H. C. HOTTEL: Radiation as a diffusion process	82
R. J. BROMHAM and Y. R. MAYHEW: Free convection from a sphere in air	83
<i>Letters to the Editor</i>	
ALFRED H. NISSAN: Temperature distribution in a macroporous body during drying; comments on paper by Kazansky <i>et al.</i>	85
G. F. C. ROGERS and Y. R. MAYHEW: Comment on Squire's Shorter Communication "Application of the defect law to the determination of the average velocity and temperature in turbulent pipe flow"	86
<i>Reports</i>	87
<i>Announcements</i>	99
<i>Book Reviews</i>	101
<i>Contents Lists</i>	
Journal of Engineering Physics	105
<i>Pioneer Paper</i>	
W. K. LEWIS: The evaporation of a liquid into a gas	109
<i>Errata</i>	112

March/April

A special issue in commemoration of the 70th Birthday of E. O. Schmidt

ERNST R. G. ECKERT: To Ernst Schmidt on his 70th birthday	113
G. GRIGULL: Veröffentlichungen von E. Schmidt	117
CESARE CODEGONE: Die Wärmestrahlung der Flammen in nicht isothermen Hohlräumen	121
L. FÖPPL: Der ebene elastische Spannungszustand in komplexer Darstellung	129
FREDERICK G. KEYES: The second virial coefficient for steam	137
J. KESTIN and L. N. PERSEN: Application of Schmidt's method to the calculation of Spalding's function and of the skin-friction coefficient in turbulent flow	143
GÜNTER LÜCK: Austauschflächen bei Dreistoff-Wärmeaustauschern	153
O. LUTZ: Zur Thermodynamik der Raketendruckkammer: Ungleiche Gemischverteilung im Brennraum	163
P. W. MCFADDEN and P. GRASSMANN: The relation between bubble frequency and diameter during nucleate pool boiling	169
ROMANO GREGORIG: Verfahrenstechnisch günstigere Führung der Mittel der Wärmeübertragung beim Verdampfen und Kondensieren	175
H. W. HAHNEMANN: Zur exakten Lösung der vollständigen Bewegungsgleichung und der Energiegleichung für die laminare Strömung um ebene Keilkörper	189
G. KLING: Über die Dynamik der Blasenbildung beim Begasen von Flüssigkeiten unter Druck	211
EMILIO VENEZIAN and B. H. SAGE: Thermal transfer from a small wire in the boundary flow about a cylinder	225

	PAGE
D. B. SPALDING and W. M. PUN: A review of methods for predicting heat-transfer coefficients for laminar uniform-property boundary layer flows	239
H. REICHARDT und R. ERMSHAUS: Impuls- und Wärmeübertragung in turbulenten Windschatten hinter Rotationskörpern	251
E. O. SCHMIDT und W. LEIDENFROST: Optimierung eines adiabatischen Kalorimeters zur genauen Messung von wahren spezifischen Wärmen schlecht wärmeleitender Substanzen	267
E. WICKE und G. WURZBACHER: Konzentrationsprofile vor einer im Sauerstoffstrom verbrennenden Kohlenstoffoberfläche—I. Experimentelle Ergebnisse	277
ADOLF BUSEMANN: Onsager Beziehungen im Mollier'schen i - x -Diagramm	291
ERNST R. G. ECKERT, PETER A. SCHOECK und EDGAR R. F. WINTER: Thermische Untersuchung eines elektrischen Hochstromlichtbogens mit poröser, gasgekühlter Anode	295
W. FRITZ und H. POLTZ: Absolutbestimmung der Wärmeleitfähigkeit von Flüssigkeiten—I. Kritische Versuche an einer neuen Plattenapparatur	307
H. HAUSEN und J. A. BINDER: Vereinfachte Berechnung der Wärmeübertragung durch Strahlung von einem Gas an eine Wand	317
W. KAST: Analyse des Wärmeübergangs in Blasensäulen	329

May

Editorial Notice	337
G. POOTS: An approximate treatment of a heat conduction problem involving a two-dimensional solidification front	339
I. T. ELPERIN: Terms, letter symbols and definitions on heat and mass transfer used in the Soviet Union	349
J. KESTIN and L. N. PERSEN: The transfer of heat across a turbulent boundary layer at very high Prandtl numbers	355
H. L. EVANS: Mass transfer through laminar boundary layers—8. Further solutions to the velocity equation	373
G. D. RABINOVICH: On a particular case of stationary heat transfer with cross flow of heat agents	409
E. R. G. ECKERT, E. M. SPARROW and W. E. IBELE: Heat transfer bibliography	413
<i>Book Review</i>	425
<i>Contents Lists</i>	
Journal of Engineering Physics	427
<i>Pioneer Paper</i>	
WALTER G. WHITMAN: The two-film theory of gas absorption	429

June

A. S. PREDVODITELEV: V. A. Mikhelson: the founder of the physics of combustion in Russia	435
H. C. AGRAWAL: A variational method for combined free and forced convection in channels	439
V. STACH: Influence of electric field on the cooling gas flow in a nuclear reactor	445
MAX A. HEASLET and HARVARD LOMAX: Radiative heat-transfer calculations for infinite shells with circular-arc sections, including effects of an external source field	457
H. BARROW: An analytical and experimental study of turbulent gas flow between two smooth parallel walls with unequal heat fluxes	469
V. P. MOTULEVICH: Heat and mass transfer at a frontal point of blunt bodies for gas flow in the presence of heterogeneous chemical reactions	489
E. M. SPARROW and W. J. MINKOWYCZ: Bouyancy effects on horizontal boundary-layer flow and heat transfer	505
MARTIN H. STEIGER and MARTIN H. BLOOM: On thick boundary layers over slender bodies with some effects of heat transfer, mass transfer and pressure gradient	513
M. S. SMIRNOV: On a system of differential equations for highly intensive heat and mass transfer	521

G. POOTS: On the application of integral-methods to the solution of problems involving the solidification of liquids initially at fusion temperature 525

C. L. TIEN: A hydrodynamic model for nucleate pool boiling 533

P. N. ROMANENKO, A. I. LEONT'EV and A. N. OBLIVIN: Investigation on resistance and heat transfer of turbulent air flow in axisymmetrical channels with longitudinal pressure gradient 541

Letters to the Editor

P. K. KONAKOV: On the transfer of radiant energy 559

W. SQUIRE: Reply to comments by Rogers and Mayhew on the shorter communication, "Application of the defect law to the determination of the average velocity and temperature in turbulent pipe flow", by W. Squire 559

E. R. G. ECKERT, E. M. SPARROW and W. E. IBELE: Heat transfer bibliography 561

A. V. LUIKOV: Heat transfer bibliography—Russian works 571

Book Reviews 583

Contents List

Journal of Engineering Physics 591

Corrigendum 593

July

S. LEVY, E. E. POLOMIK, C. L. SWAN and A. W. MCKINNEY: Eccentric rod burnout at 1000 lbf/in² with net steam generation 595

W. S. BRADFIELD, R. O. BARKDOLL and J. T. BYRNE: Some effects of boiling on hydrodynamic drag 615

M. IMBER and V. PASCHKIS: A new theory for a rotary-kiln heat exchanger 623

R. SIEGEL and M. PERLMUTTER: Convective and radiant heat transfer for flow of a transparent gas in a tube with a gray wall 639

V. G. MOROZOV: New experimental data on critical heat loads at boiling of liquids on a submerged heating surface 661

G. A. HUGHMARK: A statistical analysis of nucleate-pool-boiling data 667

A. P. HATTON and J. S. TURTON: Heat transfer in the thermal entry length with laminar flow between parallel walls at unequal temperatures 673

I. M. MASLENNIKOV: Experimental determination of thermal radiation properties when heating bodies by radiation in a diathermal medium 681

G. B. MCMAHON and J. G. DOWNES: Propagation of temperature and moisture changes during forced convective flow of air through a mass of hygroscopic fibres 689

Shorter Communication

A. G. SMITH and V. L. SHAH: Further note on an approximate method for calculating heat transfer in laminar boundary-layers with constant wall temperature 697

Contents Lists

Journal of Engineering Physics 701

Pioneer Paper

H. THOMA: III. Bestimmung der Wärmeübergangszahlen durch Modellversuche 703

August

D. A. VAN MEEL: A method for the determination of local convective heat transfer from a cylinder placed normal to an air stream 715

Z. L. MIROPOLSKY and R. I. SHNEYEROVA: Application of X-rays excited by β -sources to studying hydrodynamics of two-phase media 723

R. VISKANTA and R. J. GROSH: Effect of surface emissivity on heat transfer by simultaneous conduction and radiation 729

C. G. M. SLESSER and D. CLELAND: Surface evaporation by forced convection: I. Simultaneous heat and mass transfer	735
D. P. JORDAN and G. LEPPERT: Pressure drop and vapor volume with subcooled nucleate boiling	751
L. S. KLYACHKO: Relations for the critical state describing transition from laminar to turbulent flow in free convection	763
DONALD R. OLANDER: The influence of physical property variations on liquid-phase mass transfer for various laminar flows	765
A. S. PREDVODITELEV: On Umov's works	781
<i>Letter to the Editor</i>	
R. EICHHORN, J. A. SCHEITZ and R. E. LUNA: Instant interferometer windows	791
<i>Book Review</i>	793

September

R. VISKANTA and R. J. GROSH: Boundary layer in thermal radiation absorbing and emitting media	795
F. MAYINGER: Messungen der Viskosität von Wasser und Wasserdampf bis zu 700°C und 800 at	807
DONALD R. OLANDER: Unsteady-state heat and mass transfer in the rotating-disk-revolving-fluid system	825
ROBERT J. CRESCI: Theoretical analysis of the downstream influence of mass transfer in a stagnation region	837
W. G. BROWN and K. R. SOLVASON: Natural convection through rectangular openings in partitions—I. Vertical partitions	859
W. G. BROWN: Natural convection through rectangular openings in partitions—2. Horizontal partitions	869
TAKASHI SATŌ: Heat transfer bibliography	883
<i>Book Review</i>	885
<i>Contents List</i>	
Journal of Engineering Physics	887

October

A. A. GUKHMAN: Application of the entropy method to investigation of transonic adiabatic flows	889
R. W. POWELL, R. P. TYE and B. W. JOLLIFFE: Heat transfer at the interface of dissimilar materials: evidence of thermal-comparator experiments	897
ALBIN A. SZEWczyk: Stability and transition of the free-convection layer along a vertical flat plate	903
R. EICHHORN: Measurement of low speed gas flows by particle trajectories: a new determination of free convection velocity profiles	915
P. HUGO, E. WICKE und G. WURZBACHER: Konzentrationsprofile vor einer im Sauerstoffstrom verbrennenden Kohlenstoffoberfläche—II. Berechnung der Konzentrationsprofile	929
J. C. Y. KOH: Film condensation in a forced-convection boundary-layer flow	941
B. R. MORTON: Coaxial turbulent jets	955
JOON SANG MOON and R. NORRIS KEELER: A theoretical consideration of directional effects in heat flow at the interface of dissimilar metals	967
A. P. HATTON and A. QUARMBY: Heat transfer in the thermal entry length with laminar flow in an annulus	973
D. T. KOKOREV: Method for determining size and shape of optically black emitting systems	981

	PAGE
P. J. BERENSON: Experiments on pool-boiling heat transfer	985
M. G. SCHERBERG: Natural convection near and above thermal leading edges on vertical walls	1001
B. M. SMOLSKY and G. T. SERGEYEV: Heat and mass transfer with liquid evaporation	1011
E. R. G. ECKERT, T. F. IRVINE, JR., E. M. SPARROW and W. E. IBELE: Heat transfer, a review of current literature	1023
<i>Shorter Communication</i>	
ROBERT V. MEGHRELIAN: An approximate analytical solution for the radiation exchange between two flat surfaces separated by an absorbing gas	1051

November

ROBERT M. INMAN: Experimental study of temperature distribution in laminar tube flow of a fluid with internal heat generation	1053
R. G. HERING and R. J. GROSH: Laminar free convection from a non-isothermal cone	1059
A. M. FAINZIL'BER: New similarity integrals in heat and mass transfer processes	1069
R. P. SHREEVE, W. T. LORD, S. J. BOERSEN and S. M. BOGDONOFF: A graphite resistance heater for a hypersonic wind tunnel using nitrogen: Part I. Description of tunnel and heater	1081
W. T. LORD, R. P. SHREEVE and S. J. BOERSEN: A graphite resistance heater for a hypersonic wind tunnel using nitrogen: Part II. Analysis of heater performance	1095
I. U. OJALVO: Conduction with time-dependent heat sources and boundary conditions (A modified separation-of-variables technique)	1105
<i>Shorter Communication</i>	
E. M. SPARROW and S. H. LIN: Absorption of thermal radiation in a V-groove cavity	1111
<i>Report</i>	
B. M. SMOLSKY: On the conference of the U.S.S.R. readers of the International Journal of Heat and Mass Transfer, 20 February 1962, Moscow	1117
A. V. LUIKOV: Heat transfer bibliography—Russian works	1121
T. HOBLER: Heat transfer bibliography—Polish works	1129
<i>Contents List</i>	
Journal of Engineering Physics	1131

December

D. B. SPALDING: A new analytical expression for the drag of a flat plate valid for both the turbulent and laminar regimes	1133
T. MATTHEWS and H. P. HUTCHINSON: The batchwise transfer of acetic acid from chloroform to water	1139
WARREN E. STEWART and RICHARD PROBER: Heat transfer and diffusion in wedge flows with rapid mass transfer	1149
W. E. OLMSTEAD and S. RAYNOR: Solar heating of a rotating spherical space vehicle	1165
A. G. SMITH and V. L. SHAH: The calculation of wall and fluid temperatures for the incompressible turbulent boundary layer, with arbitrary distribution of wall heat flux	1179
H. W. KROPHOLLER and A. D. CARR: The prediction of heat and mass transfer coefficients for turbulent flow in pipes at all values of the Prandtl or Schmidt number	1191
<i>Book Reviews</i>	
	1207
<i>Reports</i>	
	1209
<i>Announcement</i>	
	1210
<i>Contents List</i>	
Journal of Engineering Physics	1211

AUTHOR INDEX

- ACRIVOS, A. P., 589
 AGRAWAL, H. C., 439
 BARKDOLL, R. O., 615
 BARROW, H., 469
 BERENSON, P. J., 985
 BINDER, J. A., 317
 BLOOM, M. H., 513
 BOBSON, S. J., 1081, 1095
 BOGDONOFF, S. M., 1081
 BRADFIELD, W. S., 615
 BROMHAM, R. J., 83
 BROWN, W. G., 859, 869
 BUSEMANN, A., 291
 BYRNE, J. T., 615
 CARR, A. D., 1191
 CHEKHOVSKOI, V. Y., 1
 CHI, S. W., 79
 CHUDNOVSKY, A. F., 584
 CLELAND, D., 735
 CODEGONE, C., 121
 CRESCI, R. J., 837
 DELYAGIN, G. N., 11
 DOWNES, J. G., 689
 ECKERT, E. R. G., 113, 295, 413, 561, 1023
 EDE, A. J., 92, 885
 EICHHORN, R., 791, 915
 ELPERIN, I. T., 349, 1209
 ERMSHAUS, R., 251
 EVANS, H. L., 35, 373
 FAJNZIL'BER, A. M., 1069
 FÖPPL, L., 129
 FRITZ, W., 307
 GEBHART, B., 77
 GRASSMANN, P., 169
 GREGORIG, R., 175
 GRIGULL, G., 117
 GROSH, R. J., 729, 795, 1059
 GUKHMAN, A. A., 889
 HAHNEMANN, H. W., 189
 HATTON, A. P., 673, 973
 HAUSEN, H., 317
 HEASLET, M. A., 457
 HERING, R. G., 1059
 HOBLER, T., 1129
 HÖTTEL, H. C., 82
 HUGHMARK, G. A., 667
 HUGO, P., 929
 HUTCHINSON, H. P., 1139
 IBELE, W. E., 413, 561, 1023
 IMBER, M., 623
 INMAN, R. M., 1053
 IRVINE, JR., T. F., 1023
 JOLLIFFE, B. W., 897
 JORDAN, D. P., 751
 KANTOROVICH, B. V., 11
 KAST, W., 329
 KEELER, R. N., 967
 KESTIN, J., 143, 355
 KIYES, F. G., 137
 KIRILIN, V. A., 1
 KING, G., 211
 KIYACHIKO, I. S., 763
 KOIL, J. C. Y., 941
 KOKOREV, D. T., 981
 KONAKOV, P. K., 559
 KROPHOLLER, H. W., 1191
 LEIDENEROST, W., 267
 LEONTEV, A. I., 541
 LEPPER, G., 751
 LEVY, S., 595
 LEWIS, W. K., 109
 LIN, S. H., 1111
 LOMAX, H., 457
 LORD, W. T., 1081, 1095
 LÜCK, G., 153
 LUKOV, A. V., 571, 586, 587, 1121
 LUNA, R. E., 791
 LUTZ, O., 163
 LYKOUDIS, P. S., 23
 MASLENNIKOV, I. M., 681
 MATHEWS, T., 1139
 MAYHEW, Y. R., 83, 86
 MAYINGER, F., 807
 MCFADDEN, P. W., 169
 MCKINNEY, A. W., 595
 MCMAHON, G. B., 689
 MEL, VAN D. A., 715
 MEGHREBLIAN, R. V., 1051
 MINKOWYCZ, W. J., 505
 MIROPOLSKY, Z. L., 723
 MOON, JOON SANG, 967
 MOROZOV, V. G., 661
 MORTON, B. R., 955
 MOTULEVICH, V. P., 489
 NISSAN, A. H., 85
 OBLIVIN, A. N., 541
 OJALVO, I. U., 1105
 OLANDER, D. R., 765, 825
 OLMSTAD, W. E., 1165
 PALAYEV, I. I., 1207
 PASCHIKIS, V., 623
 PERLMUTTER, M., 639
 PERSEN, L. N., 143, 355
 PLYAT, SH. N., 59
 POLONIK, E. E., 595
 POLTZ, H., 307
 POOTS, G., 339, 525
 POWELL, R. W., 897
 PREDVODITELEV, A. S., 435, 781
 PROBER, R., 1149
 PUN, W. M., 79, 239
 QUARMBY, A., 973
 RABINOVICH, G. D., 409, 1209
 RAYNOR, S., 1165
 RICHARDT, H., 251
 ROGERS, G. F. C., 86, 101
 ROMANENKO, P. N., 541
 SAGE, B. H., 225
 SATŌ, TAKASHI, 883
 SAWISTOWSKI, H., 589
 SCHERBERG, M. G., 1001
 SCHETZ, J. A., 791
 SCHMIDT, F. O., 267
 SCHOECK, P. A., 295
 SERGEYEV, G. T., 1011
 SHAH, V. L., 697, 1179
 SHEINDLIN, A. E., 1
 SHNEYEROVA, R. I., 723
 SHREVE, R. P., 1081, 1095
 SIEGEL, R., 639
 SINGHAM, J. R., 67
 SLESSER, C. G. M., 735
 SMIRNOV, M. S., 521
 SMITH, A. G., 697, 1179
 SMOJSKY, B. M., 583, 1011, 1117
 SOLVASON, K. R., 859
 SPALDING, D. B., 79, 239, 425, 588, 1133
 SPARROW, E. M., 413, 505, 561, 1023, 1111
 SQUIRE, W., 559
 STACH, V., 445
 STEIGER, M. H., 513
 STEWART, W. E., 1149
 STRAKHOVICH, K. I., 1207
 SWAN, C. L., 595
 SZEWCZYK, A. A., 903
 TALBOT, A., 101
 THOMA, H., 703
 TIEN, C. L., 533
 TRIBUS, M., 793
 TURTON, J. S., 673
 TYE, R. P., 897
 VENEZIAN, E., 225
 VISKANTA, R., 729, 795
 WESTENBERG, A. A., 108
 WHITMAN, W. G., 429
 WICKE, E., 277, 929
 WINTER, E. R. F., 295
 WURZBACHER, G., 277, 929