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REPORTS

The Conference of the Readers of the "Journal of Engineering Physics" and the "International Journal of Heat and Mass Transfer". 17 April 1962, Leningrad, U.S.S.R.

ON the 17th of April 1962 the Conference of the readers of the Journal of Engineering Physics and the International Journal of Heat and Mass Transfer took place in the Assembly Hall of the Leningrad Technological Institute of Refrigeration Industry.

The Conference was attended by representatives of different research institutions and plants, by Leningrad professors, instructors—seventy all together.

Professor A. F. Chudnovsky, Member of the Honorary Editorial Board, delivered the annual report for 1961 and the semi-annual report for 1962 on the work of the Journals.

After Prof. Chudnovsky's speech, followed by numerous participants' questions, a hot discussion began. Helpful and informative criticism was spoken with the aim of further improvement of the work of the Journals.

Prof. B. M. Borishansky spoke of the use of thematic issues of the Journal and wished the problems of heat transfer in the field of nuclear power engineering were discussed in the Journal. Prof. K. I. Strakhovich also supported the idea of thematic issues.

Prof. A. G. Tkachev emphasized desirability of publishing different review papers on various heat- and mass-transfer problems.

R. E. Krzhizhanovsky, Candidate of Technical Sciences appreciated the establishing of the *International Journal of Heat and Mass Transfer*, and said that it would favour the exchange of ideas among the scientists of various countries.

Some of the speakers pointed out that Leningrad scientists should take more active part in the work of the Journal since science and engineering in this city are highly developed. They noted that regular conferences of readers were of great use.

The Conference approved the general scientific trend of the Journal and recommended to make some arrangements for better distribution of the Journal in the U.S.S.R.

G. D. RABINOVICH

Symposium on Convective Heat Transfer in an Incompressible Liquid Flow. 7–9 June 1962, Kaunas, U.S.S.R.

THE Symposium on convective heat transfer in an incompressible liquid flow was held during 7–9th of June, 1962. It was sponsored by the Institute of Energetics and Electrical Engineering of the Academy of Sciences of the Lithuanian S.S.R.

Sixty representatives of nineteen research institutions of the Soviet Union attended the Symposium. In his opening speech A. A. Zhukauskas, Director of the Institute of Energetics and Electrical Engineering, Kaunas, Correspondent Member of the Academy of Sciences of the Lithuanian S.S.R., emphasized the great significance of convective heat-transfer problems for modern engineering.

The following reports were presented at the Symposium.

B. S. Petukhov: "Modern state of convective heat-transfer theory in an incompressible fluid" (a review paper).

S. S. Kutateladze: "Some problems of the theory of convective heat transfer and aerodynamic friction in a turbulent flow."

G. N. Kruzhilin: "The problem of heat transfer with the use of Reynolds analogy for calculations of heat transfer in the process of vapour condensation."

A. I. Leont'ev: "New methods for correlation of the data obtained from experiments on convective heat transfer and liquid flow with subcritical parameters."

V. I. Subbotin, P. A. Ushakov, A. V. Zhukov, B. N. Gabrianovich and Y. I. Orlov: "Heat transfer in bundles of rods in a longitudinal flow of water."

A. A. Zhukauskas, A. B. Ambrazyavichus and Y. Y. Zhyugzhda: "The effect of the initial unheated section and non-uniformal temperature along the length of heat transfer of a flat surface in a longitudinal flow."

V. M. Borishansky and E. D. Fedorovich: "Heat-transfer calculation in a turbulent boundary layer of incompressible liquid under the wide range of Prandtl numbers."

D. A. Labuntsov: "An approximate study of heat-transfer rate of non-uniformly heated flat surface with a laminar boundary layer."

A. A. Zhukauskas, Y. Y. Zhyugzhda and P. Y. Eidukevichyus: "Heat transfer in a duct formed by parallel plates with unsteady laminar flow."

V. I. Subbotin, V. S. Minashin, L. A. Ushanov and L. K. Kudryavtsev: "Heat transfer and temperature pulsations in bundles of tubes in a transverse flow of water."

A. A. Zhukauskas, B. Y. Makaryavichus and A. A. Shlanchauskas: "Heat transfer of a solid system with curvilinear surfaces in a transverse flow."

B. M. Borishansky, A. A. Andreevsky and B. B. Zhinkina: "Heat transfer of bundles of tubes in a transverse water flow."

Y. K. Stasyulyavichus, P. S. Samoshko, A. Y. Skrinsk and B. Y. Survil: "Heat transfer of bundles of smooth tubes in a transverse air flow at high Reynolds numbers."

E. K. Kalinin and S. A. Yarko: "Some experimental

investigations into heat transfer in a transient flow with high thermal loads."

P. L. Kirillov: "Temperature distribution in a turbulent liquid flow in a tube."

B. S. Petukhov and L. I. Roisin: "Heat transfer in a laminar liquid flow in circular tubes."

B. S. Petukhov and B. N. Popov: "Heat transfer calculation in tubes with a turbulent liquid flow of variable physical properties."

I. T. Alad'ev and V. A. Efimov: "Heat transfer intensification in electrical fields."

L. A. Dorfman: "Heat transfer of rotating surfaces."

V. P. Isachenko and S. G. Agababov: "Intensification of heat transfer in rough tubes and estimation of corresponding change in hydraulic resistance."

M. G. Kryukov: "Convective heat transfer of a solid particle in a gas flow."

A. A. Shlanchauskas: "The effect of ultrasound on heat transfer."

The papers were followed by three days' discussion. The speakers in the discussion made incisive comments concerning some papers presented at the Symposium. They spoke as well of the prospects of convective heat-transfer researches.

Urgent necessity to study both integral heat-transfer characteristics at high-rate processes and temperature fields and temperature distribution were emphasized by the speakers.

They noted that many theoretical works of insignificant scientific and practical importance appeared recently. In these works, minor problems are investigated, also general varieties of boundary conditions are treated. Meanwhile the main actual problem is to profoundly study the mechanism of the process and to work out new theories of transport in a turbulent flow which are to change semiempirical von Kármán–Prandtl's theory. The following problems were considered the most urgent and important for investigators into the field of convective heat transfer.

1. Further study of convective heat-transfer mechanism especially in high-rate processes (convective resistance), turbulent heat transfer, heat transfer in the fluid of variable physical properties, with internal heat source etc.

2. Mastery of the methods for both intensification of convective heat-transfer processes and their deceleration (overheating protection).

3. Development of portable and effective heat-transfer appartuses for various engineering branches.

4. Investigation of the non-stationary processes of heat transfer and fluid dynamics as well as some other problems.

The speakers in the discussion pointed out the use of sponsoring such Symposia which consider narrow problems. They are to be held in the period between all-union conferences covering all the heat-transfer problems.

I. T. ELPERIN

ANNOUNCEMENT

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