

**TITLES OF PAPERS FROM RECENT ISSUES OF**  
***INZHENERNO-FIZICHESKII ZHURNAL***  
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**Vol. II, No. 8**

**August 1959**

- D. K. KOLLEROV: The foundations of the theory of the thermal decomposition of materials in particle form.  
V. I. BLINOV: Pulsation of diffusion flames.  
H. A. LENIGER: Drying of solid foodstuffs in air.  
N. U. KOIDA: Application of similarity theory to the filtration of liquids.  
S. A. REGIER: The non-steady flow of a conducting liquid in a magnetic field.  
V. V. SKOROKHOD: The electrical conductivity of conductor-nonconductor dispersions.  
I. G. NEKRASHEVICH and I. A. BAKUTO: On the mechanism of electrode pitting during an electric discharge.  
V. F. STEPANCHUK: The designing of an adiabatic-isothermal expansion nozzle.  
F. F. KHARAKHORIN: The liquid-vapour equilibrium in the system ethane-ethylene.  
G. V. OVECHKIN, A. B. USTINOVICH and V. D. SHAFOROSTOVA: The effect of sodium concentration in a plasma on the relative intensity of a selected pair of spectral lines of magnesium and copper.  
A. M. SAMSON: Non-stationary luminescence from a sheet of infinite thickness.  
M. G. MARKEVICH: Some aspects of the geometry of solid bodies.

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- R. I. ARTIM: Nucleation of a new phase in dilute binary solutions.  
M. A. KOVNER: Calculation of the thermodynamic functions of benzene and toluene and their fully deuterated analogues from spectroscopic data.  
N. I. KUZNETSOV and M. P. KHALIMANOVICH: The effect of manufacturing inaccuracies on the motion of a symmetrical gyroscope.  
A. A. GUSAK: The theory of the mechanisms known as parallelograms.

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**September 1959**

- E. D. FEDOROVICH: Heat transfer of a plate in a turbulent boundary layer of an incompressible liquid at  $Pr \ll 1$ .  
Y. MALAK and I. SHMID: Investigation of the heat exchange in a homogenous boiler-type atomic reactor.  
F. F. KHARAKHORIN: Liquid-vapour equilibrium in the systems nitrogen-helium and helium-methane.  
G. D. RABINOVICH and G. N. SLOBODICH: An experimental investigation of the process of heat exchange between a pulsed gas flow and solid particles suspended in it.  
A. P. KASHURICHEV: A method of investigating the process of thermal decomposition of solid fuels.  
I. L. LIUBOSHITS: Contact mass transfer in a layer of granular material.  
V. D. DUNSKY: The thickness of the heat insulating layer in a vertical cyclone furnace.  
I. N. FRANTSEVICH, D. F. KALINOVICH, I. I. KOVENSKY and M. D. SMOLIN: Donor-acceptor interactions of the components of a binary iron-chrome alloy.  
L. O. MELESKO: An investigation of the kinetics of crystallization of betol, salipyryne and antipyryne.  
A. P. PRISHIVALKO: The accuracy of determination of optical constants of absorbing materials by the reflection method.  
I. L. KAROL and A. Y. PRESSMAN: The dispersion of a heavy aerosol, having distributed particle size, in a turbulent atmosphere at large distances from an instantaneous point source.

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- A. I. RYCHKOV and N. A. SHAKHOVA: Calculation of the rate of pseudo-liquefaction of suspensions with fixed or distributed particle size.  
E. M. ORGRYZKIN: The mechanism of the effect of an oxygen jet on a liquid bath.  
K. V. ELSHIN: Natural convection in an oil tank.  
L. I. KISELEVSKY and N. S. SVENITSKY: The effect of polarity on the entry of electrode material into the light source during spectral analysis.

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October 1959

- G. L. BABUKHA and M. M. NAZARCHUK: A method of calculating the heating of a suspension having distributed particle size.
- M. A. GOLDSHTIK: A thermoanemometer with automatic compensation for changes in flow temperature.
- V. S. BURAKOV and A. A. YANKOVSKY: An investigation of the effect of sulphur on the intensity of the spectral lines of iron.
- V. S. VOLKENSHEIN and N. N. MEDVEDEV: The determination of coefficients of temperature conductivity and heat conductivity of solids and liquids.
- A. S. KASPEROVICH: The use of the method of electrothermal analogies in calculating the behaviour of circuits containing indirectly heated thermistors.
- L. S. STERMAN, V. G. MOROZOV and S. A. KOVALEV: Investigation of heat transfer during the boiling of water and ethanol in pipes (under pressure).
- A. A. ANDREYEVSKY: Heat transfer to a single pipe in a transverse liquid flow at low Prandtl numbers.

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- N. N. INOZEMTSEV: The effect of initial temperature and pressure on the normal rate of flame propagation of various hydrocarbon-air mixtures.
- N. N. SIROTA and A. V. SHIBAeva: Etch contrasting of dislocations in monocrystals of silicon.
- P. I. KUDRYASHOV, A. S. CHERKASOV, B. Y. SVESHNIKOV and G. A. TISHCHENKO: Boro-glycerine organic phosphors.
- G. V. PLYATSKO: The temperature field in a hollow cylinder with variable boundary conditions.
- G. P. STELMAKH: An approximate calculation of particle velocity in the suspended state.
- A. I. MOCHALIN: The combined utilization of the Dirac delta-function and integral transforms.
- M. M. FARZETDINOV: Heat transfer through a revolving cylindrical body enclosed within a solid mass.
- F. L. YUDITSKY: The wear resistance of graphite piston rings in a water vapour environment.
- V. D. KUZNETSOV and V. N. KASHCHEYEV: The hardness of metals and their wear in a stream of abrasive particles.

*Criticism and Bibliography*

- L. D. BERMAN: Remarks on the article of A. A. POLUSHKIN entitled: "The criteria of similarity of heat and mass exchange in processes of evaporation of liquids".
- A. A. POLUSHKIN: On the remarks of L. D. BERMAN.

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November 1959

- E. V. SHISHOV: The use of thermocouples placed across streamlines to record the temperature of supersonic flows.
- A. Y. PRESSMAN: The role of turbulent vertical dispersion in the settling of non-homogeneous aerosols from the atmosphere.
- A. V. LUIKOV: An investigation of heat and mass transfer in binary gas mixtures.
- V. A. BAUM and A. S. OKHOTIN: A method of calculating the performance of solar batteries.
- N. I. GAMAYUNOV: A new method for determining coefficients of heat and mass transfer.
- Y. CIBOROWSKI: A graphic method of determining the degree of sublimation condensation.
- F. I. MURASHKEVICH: The dust-removal efficiency of a turbulent scrubber.
- B. V. LVOV: Analytical applications of atomic absorption spectra.
- A. I. RYCHKOV: The relationship between the heat exchange of a liquid during boiling and its internal pressure  $[(\partial E/\partial V)_T]$ .

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- A. S. PLESHANOV: A mathematical theory concerning normal rates of flame propagation.
- I. S. KOCHENOV and V. L. ROMODANOV: The coefficient of resistance during the flow of liquid under suction through a porous wall.
- F. S. VORONIN: The effects of compressibility on the coefficient of friction resistance in turbulent gas flow.
- E. A. SIDOROV: The calculation of resistance and convection heat exchange under turbulent non-stationary conditions.
- V. N. OLEINIKOV and M. F. KAZANSKY: The investigation of means of gamma-rays of a non-stationary hydrothermal field during the drying of a macroporous body.
- B. I. TIMCHUK: An investigation of heat transfer in molten metals during phase transformations.
- L. I. BERGER and N. N. SIROTA: Some properties of alloys of the system:  $\text{InAs-In}_2\text{Se}_3$ .
- M. A. YAKOVLEV: The kinetics of the decay of induced thermal e.m.f.s in industrial iron.
- A. I. MOCHALIN: The problem of heat conduction in an infinite cylinder.
- L. N. GRIGORYEV and A. G. USMANOV: Heat transfer in boiling azeotropic mixtures.
- I. I. PETROVSKY: Germanium diodes with "negative resistance".

Translated by T. BODDINGTON