

YEGOROV, R. N. and V. A. KUZNETSOV.

Issledovanie raboty vintov tandem v prisutstvii kryla. (TSAGI. Trudy, 1931, no. 87, p. 5-36, diags., tables.)

Summary in English.

Title tr.: Testing of the behavior of a propeller tandem with a wing.

QA911.M65 no. 87

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

YEGOROV, B. N.

Privedenie k standartnym atmosferym usloviyam rezul'tatov poletnykh ispytaniy s uchetom podogreva vozdukha. (Tekhnika vozdushnogo flota, 1940, no. 7, p. 81-85, diags.)

Title tr.: Reduction of flight performance data to standard atmosphere conditions with due consideration for heating of the air.

TL504.T4 1940

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

YEGOROV, B.N.

Opredelenie staticheskogo davlenia vozdukha v polete. (Tekhnika vozdušnogo flota, 1940, no. 10-11, p. 73-76, diagrs.)

Title tr.: Determination of static air pressure in flight.

TL504.T4 1940

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

EGOROV, B.N.

Vinty dlia skorostnykh samoletov s sverkhmoshchnymi motorami. (Tekhnika vozdushnogo flota, 1941, no 3, p. 11-24, tables, diags.)

Title tr.: Propellers for high speed aircraft with high-power engines.

TI 54. T4 1941  
504

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

AUTHORS: Ravich, G. B., Yegorov, B. N.

SOV/20-122-2-23/42

TITLE: A Study of the Polymorphism of N-Ethyl-3,4-Dinitropyrrole  
(Issledovaniye polimorfizma N-etil-3,4-dinitropirrola)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 2,  
pp 250 - 253 (USSR)

ABSTRACT: The authors investigated several methods for the phase analysis of the polymorphism of a pure sample of N-ethyl-3,4-dinitropyrrole. The preparation was examined by means of differential-thermal analysis and systematic dilatometric investigations. The evidences verified the existence of 3 reversibly convertible modifications of this compound. Form III with the lowest temperature was reversibly transformed to form II at 54 - 56° (Fig 1a), the latter into form I at 74-76°. From the type of the differential-thermal curves the transformation I → II was not substantiated with quick cooling, whereas the transformation II → III became distinct. It was striking that the total effect of the heat absorption in the transformations III → II and II → I in the thermal curve is

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A Study of the Polymorphism of N-Ethyl-3,4-Dinitro-  
pyrrole

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very close to the absolute value of the opposite (exothermic) effect in the temperature range of the transformations of the modifications II  $\rightarrow$  III. Thus, the differential-thermal analysis recorded an essential shifting of temperature in the phase transformation I  $\rightarrow$  II (as compared with the temperature II  $\rightarrow$  I), according to the conditions of cooling and the history of the sample. The above temperature hysteresis in the phase transformation I  $\rightleftharpoons$  II became especially evident in the dilatometric curves which have been obtained both, visually and by automatic recording. Figure 3 shows a temperature curve and a dilatometric curve. Heating was performed from room temperature nearly up to the melting point. Afterwards the sample was cooled. Both with the heating and with the cooling phase transformations and the ranges of the phase existence are seen. They were in accordance with the results of the differential-thermal analysis (Fig 1). It was seen from the dilatometric curves that the reversible phase transformations were accompanied by a considerable enlargement of the linear dimensions, in particular with the transformation

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A Study of the Polymorphism of N-Ethyl-3,4-Dinitro-  
pyrrole

SOV/20-122-2-23/42

II → I, where it is C.6%. Professor S.S.Novikov had supplied a sample of N-ethyl-3,4-dinitropyrrrole. There are 4 figures and 4 references, 4 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova  
Akademii nauk SSSR (Institute of General and Inorganic  
Chemistry imeni N.S.Kurnakov, AS USSR)

PRESENTED: May 4, 1958, by I.I.Chernyayev, Member, Academy of Sciences, USSR

SUBMITTED: April 25, 1958

Card 3/3

RAVICH, G.B.; YEGOROV, B.N.

Dilatometric phase analysis. Itogi nauki: Khim. nauki 4:  
265-282 '59. (MIRA 13:4)  
(Chemistry, Analytical)



87335

S/078/60/005/011/022/025/XX  
B015/B060

54700

2209, 1273, 1043

AUTHORS:

Ravich, G. B., Yegorov, B. N.

TITLE:

Phase Transition of the 2nd Kind in Sodium Nitrate

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 11,  
pp. 2603 - 2611

TEXT: The authors studied the conversion of the 2nd kind of polycrystal-  
line  $\text{NaNO}_3$  at 160 - 275°C by the methods of linear dilatometry and  
differential thermal analysis. The specimens were prepared by cold  
pressing on an ИМ-4А (IM-4A) testing machine of TsNIITMASH. The dilato-  
metric measurements took place on an arrangement which is schematically  
shown in Fig. 1 and described in Ref. 11. The absolute thermal expansion  
caused by the transition of the 2nd kind was found to be 2.1 % (with  
respect to the volume) (Fig. 1), and the coefficients of the volume  
increase of  $\text{NaNO}_3$  were calculated in the range of the transition of the  
2nd kind (Fig. 2). The temperature dependence of these coefficients was  
established by recording the dilatometric curves by an ЭПП-09 (EPP-09)

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potentiometer (Fig. 4), and about the same values as Kracek's (Ref. 13) were obtained by volumetric dilatometry. The values obtained here by linear dilatometry are higher than those given by Kracek only in the range of the most distinctly marked anomaly of thermal expansion. Since the values given here do not agree with Austin's and Pierce's results (Ref. 10) which were likewise obtained by linear dilatometry, the latter are believed to be incorrect, and, on the other hand, the contradiction between the measurement values obtained by linear and volumetric dilatometry for the range of phase transformation of the 2nd order of  $\text{NaNO}_3$  is thought to be disposed of. Dilatometric curves with heating and cooling rates of up to 7 degrees/minute and the thermal expansion anomalies were recorded fairly well by an electronic dilatometer (Fig. 6). By comparing the curves of specific capacity with the differential-thermal curves (Fig. 7) a polythermal heat of the phase transformation of the 2nd kind was found, which does not contradict the statement that there appears no latent isothermal heat in these transitions. A differential-thermal analysis yielded a value of 1150 cal/mole for the polythermal heat when assuming the melting heat to be 3596 cal/mole. M. I. Kornfel'd and

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A. A. Chudinov, L. Landau and Ye. M. Lifshits, I. Ye. Dzyaloshinskiy, I. M. Khalatnikov, V. A. Sokolov, and N. Ye. Shmidt are mentioned. There are 7 figures and 15 references: 9 Soviet, 3 US, 2 Dutch, and 1 Finnish.

SUBMITTED: April 8, 1960

X

Card 3/3

YEGOROV, B.N.

Occurrence of the metastable phase of  $\text{KNO}_3$ . Zhur.neorg.khim. 6  
no.11:2599-2601 '61. (MIRA 14:10)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
Akademii nauk SSSR.  
(Potassium nitrate crystals)

RIVKIN, S.L., kand.tekhn.nauk; YEGOROV, B.N., inzh.

Experimental investigation of the heat capacity of ethyl alcohol of 94 per cent (by weight) concentration in the supercritical zone of the parameters of state. Teploenergetika 8 no.7:60-67 JI '61. (MIRA 14:9)

1. Vsesoyuznyy teplotekhnicheskiy institut.  
(Ethyl alcohol) (Heat capacity)

RIVKIN, S.L., kand.tekhn.nauk; YEGOROV, B.N., kand.tekhn.nauk

Experimental study of the thermal capacity of heavy water in  
supercritical region of the parameters of state. Teploenergetika  
9 no.12:60-63 D '62. (MIRA 16:1)

1. Vsesoyuznyy teplotekhnicheskii institut.  
(Deuterium oxide--Thermal properties)

S/076/62/036/001/011/017  
B124/B110

AUTHORS: Yegorov, B. N., Yermilov, N. K., and Otchenashenko, I. M.

TITLE: New thermal setup for phase analysis of small specimens

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 170-175

TEXT: A new setup securing uniform heating and cooling over a wide temperature range at an adjustable rate is described. The setup, designed for use in thermal analysis, was developed at the Design Office mentioned under Association. A block diagram, including a thermal block (Fig. 2), temperature control equipment, an ЭР-С-К (ER-S-K) electronic controller furnished by the factory "Komega", and an CH-120 (SN-120) voltage regulator, is shown in Fig. 1. Uniform temperature changes over the range from -150 to 350°C at rates between 0.1 and 6.4°/min can be obtained. The thermal block is an enclosed all-metal stainless steel chamber with its upper flange 4 fastened to bearing disk 3. A platinum thermocouple 13 is provided at the bottom to control the temperature within the block. Further components of the thermal block are: electrical heater 15, metallic holder 2, heat reflectors 5, and measuring rod 9. All thermal

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New thermal setup for phase...

S/076/62/036/001/011/017  
B124/B110

parts are insulated with a thick asbestos cord layer. Test sample 10 and standard 11 are contained in a sealed quartz plug connected to the measuring quartz tubes. Temperature control and programming are schematically illustrated in Fig. 3. Phase transitions in  $\text{NH}_4\text{NO}_3$  and

$\text{NH}_4\text{Cl}$  were dilatometrically studied using this device; the respective dilatograms are shown in Figs. 4 and 5. The results agree well with those obtained by other methods. Ye. V. Mashintsev and V. M. Neymark are thanked for assistance. There are 5 figures and 10 references: 6 Soviet and 4 non-Soviet. The reference to the English-language publication reads as follows: P. W. Bridgman, Phys. Rev., 38, 132, 1931. ✓

ASSOCIATION: Tsentral'noye konstruktorskoye byuro TsUS AN SSSR (Central Design Office TsUS AS USSR). Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: May 31, 1960

Card 2/8<sub>2</sub>



LESKOVICH, I.A.; YEGOROV, B.N.; SALATIN, V.P.

Flow stress and dilatometry of potassium nitrate. Zhur. fiz.  
khim. 36 no.3:521-525 Mr '62. (MIRA 17:8)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova  
AN SSSR.

RAVICH, G.B.; YEGOROV, B.N.; KRILOV, B.G.

Polymorphism of higher monoacid triglycerides studied by means of an volumetric microdilatomer with an automatic recording device. Izv. AN SSSR. Otd. khim. nauk no. 3:481-487 Mr '63.  
(MIRA 16:4)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.

(Glycerides)

(Polymorphism)

RIVKIN, S.L., kand.tekhn.nauk; YEGOROV, B.N., inzh.

Heat capacity and enthalpy of ethyl alcohol with concentration of 94 % (by weight) in the supercritical region of the parameters of state. Teploenergetika 10 no.6:74-76 Je '63. (MIRA 16:7)

1. Vsesoyuznyy teplotekhnicheskiy institut.  
(Ethyl alcohol--Thermal properties)

L 14544-63

BDS

ACCESSION NR: AP3001806

2/0030/63/000/006/0062/0062

AUTHORS: Mashiatsev, Ye. V.; Heymark, V. M.; Yegorov, B. N.

60

TITLE: New devices for microphase analysis

58

SOURCE: AN SSSR. Vestnik, no. 6, 1963, 64-68

TOPIC TAGS: microphase analysis, dilatometer, thermoscale, thermographic oscillograph

ABSTRACT: The traditional techniques (thermography, thermogravimetry, extensometry, and microstructure investigation) have yielded good results in the study of atomic technology, rare elements and their compounds, new fuels, semiconductors, and other valuable or dangerous materials. However, Tsentralnoye konstruktorskoye byuro (Central Bureau of Structures) recently placed in operation new automatic devices for making much closer analyses of minute quantities of matter. They are: 1) the linear dilatometric unit LDU-1 which measures linear heat expansion in solid states, volume change in polymorphic transformation of matter, the relaxation time and some physical and mechanical properties of polymers; 2) the volume-increase measuring unit OMD-1 that records the changes in highly plastic and liquid matter; 3) the microthermoscale MTV, developed from electronic microscales of the EM-1 type, for

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determining the kinetics of minute solid and liquid quantities of matter, and 4) <sup>2</sup>  
the thermographic registering device, NTR-62, a low-frequency light ray oscillograph.  
Orig. art. has: 1 graph and 2 photographs.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15Jul63

ENCL: 00

SUB CODE: 3D

NO REF SOV: 000

OTHER: 000

Card 2/2

S/078/63/008/004/013/013  
A059/A126

AUTHORS: Dembovskiy, S.A., Yegorov, B.N., Pashinkin, A.S., Polyakov, Yu.A.

TITLE: The problem of the phase transition of the second type with SnSe

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1963, 1,025 - 1,026

TEXT: In connection with the systematic study of the phase diagrams of the Sn - Se and SnSe - As<sub>2</sub>Se<sub>3</sub> systems, tin selenide was investigated using differential thermal analysis and x-ray photography in the region of second-type transition. Sn and Sb were melted in a stoichiometric ratio in evacuated quartz flasks, and thermograms were taken with a pyrometer of the type ФПК-55 (ФПК-55). A differential temperature peak was observed on the thermograms of SnSe with an extreme value at 540°C corresponding to the λ-point. No marked structural modifications of SnSe were established in the second-type transition region. The applicability of the Grüneisen law to second-type phase transitions has been shown on the example of SnSe. It has been further shown that the correlation of electric parameters (Hall resistance R) and thermal properties (thermal volume

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S/078/63/008/004/013/013  
A059/A126

The problem of the phase transition of the ....

expansion coefficient, specific heat) is possible, and it is assumed that second-type phase transitions are also possible in the isostructural analogues of tin selenide, namely GeS, GeSe, and SnS. There are 2 figures.

ASSOCIATION: Institut obshechey i neorganicheskoy khimii im. N.S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N.S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: August 16, 1962

Card 2/2

RIVKIN, S., L., kand. tekhn. nauk; YEGOROV, B.N., kand. tekhn. nauk

Experimental study of the calorific capacity of heavy water  
at high temperatures and pressures. Teploenergetika 10 no.7:  
75-76 JI '63. (MIRA 16:7)

1. Vsesoyuznyy teplotekhnicheskii institut.  
(Deuterium oxide)



S/089/63/014/004/017/019  
AC65/A126

AUTHORS: Rivkin, S.L., Yegorov, B.N.

TITLE: The specific heat of heavy water at high pressures and temperatures

PERIODICAL: Atomnaya energiya, v. 14, no. 4, 1963, 416 - 418

TEXT: The results of measurements of the specific heat of heavy water in liquid, vapor, and supercritical phases are presented in continuation of a paper in which the specific heat was determined for pressures up to  $100 \text{ kg/cm}^2$  and temperatures of up to  $300^\circ\text{C}$  [S.L. Rivkin, B.N. Yegorov, Atomnaya energiya, v. 7, no. 5, 462 (1959)]. The measurements were made using an adiabatic calorimeter with a closed-circulation system. In contrast to the previous work mentioned before, the authors here used a liquid thermostat with very accurate temperature control ( $\pm 0.01^\circ\text{C}$ ). Far away from the saturation characteristic the error in measurement is about 0.35%, and near the saturation characteristic it is 1 - 2%. There are 1 figure and 1 table.

SUBMITTED: September 1, 1962

Card 1/1

OTCHENASHENKO, I.M.; NEYMARK, V.M.; YERMILOV, N.K.; YEGOROV, B.N.

Volume microdilatometer for investigating phase transitions.  
Zav. lab. 29 no.10:1260-1261 '63. (MIRA 16:12)

1. AN SSSR i Institut obshchey i neorganicheskoy khimii imeni  
N.S. Kurnakova.

MASHINTSEV, Ye.V.; NEYMARK, V.M.; YEGOROV, B.N.

New devices for phase microanalysis. Vest. AN SSSR 33 no.6:  
64-68 Je '63. (MIRA 16:7)  
(Microchemistry) (Chemical apparatus)

YEGOROV, B. N.; KRYLOV, B. G.

Double melting of tristearin. Zhur. fiz. khim. 37 no. 3:675-  
676 Mr '63. (MIRA 17:5)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova.

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YEGOROV, B.N.; RAVICH, G.B.; KRYLOV, B.G.

Phase transition of the second kind in 2,4,6-trinitrophenol.  
Dokl. AN SSSR 152 no.2:370-371 S. '63. (MIRA 16:11)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR. Predstavleno akademikom I.V. Tananayevym.

RYVKIN, S. L.; YEGOROV, B. N.; SHINGAREV, M. R.

"Experimental investigation of the heat capacity of ethyl alcohol and its solutions in water in the supercritical region."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk,  
4-12 May 1964.

F. E. Dzerzhinskiy All-Union Heat Engineering Inst.

L 10065-67 EMP(d)/EMP(v)/EMP(k)/EMP(h)/EMP(l)  
ACC NR: AP6029939 SOURCE CODE: UR/01:13/66/000/015/0100/0100  
37

INVENTORS: Neymark, V. N.; Otchenashenko, I. K.; Yermilov, N. K.; Yegorov, B. N.

ORG: none

TITLE: A linear microdilatometer. Class 42, No. 181186 [announced by Central Construction Bureau of Unique Equipment AN SSSR (Tsentral'noye konstruktorskoye byuro unikal'nogo priborostroyeniya AN SSSR)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 100

TOPIC TAGS: thermal expansion, phase transition, measuring instrument

ABSTRACT: This Author Certificate presents a linear microdilatometer for measuring thermal expansion and for studying phase transitions of solid and high ductility materials. The microdilatometer contains a quartz tube with a quartz push-rod mounted upon it. One end of the quartz push-rod adjoins the surface of the specimen and the other end adjoins the deformation detector or mechanotron. The microdilatometer also has a quartz tube with a calibrated specimen for the differential-thermal analysis, a thermal unit with a programmed temperature regulation, a system for establishing a vacuum for the specimen, and a recording instrument. The design provides automatic and remote adjustment of the push-rod on the specimen and for setting of the measurement system to zero before the start of the measurement and

UDC: 531.71:082.6

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ACC NR: AP6029939

during the measurement process. A micrometer screw mechanism which adjusts the push-rod to the specimen is connected with a reversible electric motor. The motor is connected to the output of the mechanotron which is included as the zero-unit in the following system. To compensate for the pressure caused by the measurement force of the linear motion detector and the weight of the push rod, the push-rod is fastened to a link when a specimen is used for studying high ductility materials. This link is suspended on two flat springs with an eccentric regulator.

SUB CODE: 14, 20/

SUBM DATE: 29Dec64



YEGOROV, B.P., inzhener; SLABUTSKIY, G.Ya., inzhener.

Experience in building cooling towers. Elek.sta. 25 no.12:  
41-42 D '54. (MLRA 7:12)  
(Cooling towers)

YEGOROV, B. P.

28(1);25(1) PHASE I BOOK EXPLOITATION SOW/28(1)

Mekhanizatsiya i avtomatizatsiya trudovykh protsessov v litynnoy proizvodstve (Mechanization and Automation of Labor-consuming Processes in Foundry Production) Moscow, Mashiz, 1959. 226 p. Errata slip inserted. 4,000 copies printed.

Reviewers: K. N. Skobnikov, Candidate of Technical Sciences; Ed. (Title Page); G. I. Koblyanskiy (Deceased); Ed. (Inside Tech. Book); O. V. Sparyanskaya, Managing Ed. for Literature in the Technology of Machinery Manufacture (Leningrad Division, Mashiz); Ye. P. Reimov, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and engineers engaged in the mechanization and automation of industrial processes. It may also be used by students of institutions of higher technical education.

COVERAGE: The book deals with recent achievements in the mechanization and automation of time- and labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented in the book is divided into six parts, dealing with the following subjects: molding materials, mold and coremaking, casting, the use of molds, finishing of castings, and special casting methods. Each part consists of a number of technical papers presented by several authors. The application of automation ranges from the preparation of molds and cores to the mechanization of streamlining of specialized casting. There are numerous diagrams showing automatized and semi-automatized installations in foundry work at the "Krasnyy" plant. Some of the methods described appear to be experimental stages at that plant. The book also presents a technical conference of the Soviet machine industry in October, 1957. No personalities are mentioned.

68 Yegorov, B. P. Constructions of Saw Holding Machines

113 Planch, J. Installation for Modifying Cast Iron With Magnetic Medium Under Pressure

118 Burlo, Ye. A. Redesign of Control Mechanisms for Electric-arc Furnaces

154 Volynskiy, V. E. Hydroblast Installation for Cleaning Castings

162 Zaslavskiy, M. Ye. Hydroblast Cleaning of Castings

167 Ginzburg, A. D. Overall Mechanization of Steel-casting Cleaning Shops

176 Ginzburg, A. D. Mechanization and Automation of Investment Casting

188 Belogorov, M. M. Recent Non-Soviet Achievements in the Automation and Mechanization of Die Casting

202 Lopyrev, I. I., M. P. Borovskiy, G. P. Nikitich, A. L. Zayats, and S. I. Poshchinko. Mechanization of the Production of Small High-precision Castings in Pressed Bakelite-base Shell Molds

210 Ginzburg, A. D. Semi-automatic Machine for Tackling Shell Molds

YE SEROV, D. I.

PHASE I BOOK EXPLOITATION SOV/5458

Girshovich, Naum Grigor'yevich, Doctor of Technical Sciences, Professor, ed.

Spravochnik po chugunnomu lit'yu (Handbook on Iron Castings) 2d ed., rev. and enl. Moscow, Mashgiz, 1961. 800 p. Errata slip inserted. 16,000 copies printed.

Reviewer: P. P. Berg, Doctor of Technical Sciences, Professor; Ed.: I. A. Baranov, Engineer; Ed. of Publishing House: T. L. Leykina; Tech. Eds.: O. V. Speranskaya and P. S. Frumkin; Managing Ed. for Literature on Machine-Building Technology (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This handbook is intended for technical personnel at cast-iron foundries. It may also be of use to skilled workmen in foundries and students specializing in founding.

COVERAGE: The handbook contains information on basic problems in the modern manufacture of iron castings. The following are discussed: the composition and properties of the metal; the making of molds; special casting methods; the charge preparation; melting

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Handbook on Iron Castings

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and modifying the cast iron; pouring, shaking out, and cleaning of castings; heat-treatment methods; and the inspection and rejection of castings. Information on foundry equipment and on the mechanization of castings production is also presented. The authors thank Professor P. P. Berg, Doctor of Technical Sciences, and staff members of the Mosstankolit Plant, headed by the chief metallurgist G. I. Kletskin, Candidate of Technical Sciences, for their assistance. References follow each chapter. There are 287 references, mostly Soviet.

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Handbook on Iron Castings

SOV/5458

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- 5. Safety measures (Ye. B. Immerman) 675

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Ch. VIII. Heat Treatment of Iron Castings (N. G. Girshovich)

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Plant in Simferopol] Opyt stroitel'stva Simferopol'skoi GRES  
im. V.I.Lenina [By] S.A.Berenshtein i dr. Moskva, Gosenergoizdat,  
1962. 151 p. (MIRA 15:6)

(Simferopol--Electric power plants)

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SEMENOV, S.H., red.; RAKOV, S.I., tekhn. red.

[Secret of the NSE winding machine; notes of a worker-inventor]  
Sekret NSE; zapiski rabocheho-izobretatelia. Moskva, Izd-vo  
VTsSPS, 1961. 134 p. (MIRA 14:9)  
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Settling of concrete twin locks. Gidr.stroi. 32 no.4:36-39 Ap  
'62. (MIRA 15:4)

(Locks (Hydraulic engineering))

YEGOROV, B.V.

USSR/Soil Science. Tillage. Land Reclamation. Erosion.

J-5

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24800.

Author : Ivanov, P K.; Yegorov, B.V.

Inst :

Title : On the System of Tillage of the New Lands.  
From Experiment of Virgin Sovkhozes of the  
Saratov Oblast.

Orig Pub: Sovkhoznoye proiz-vo, 1957, No 5, 40-44.

Abstract: On chernozems, dark-chestnut and chestnut soils of the regions on the left bank of the Volga, a deep (27-30 cm.) early ploughing of virgin soils and long fallows increases the yield of spring wheat by 5.3 c/ha. It is advisable to conduct the application of deep unbanked ploughing and the subsequent tillage of soils on lands that

Card : 1/2

IVANOV, P.K., zasluzhennyy deyatel'nauki RSFSR, prof.; YEGOROV, B.V.

Biology of sedges and cultivation of sedge-infested areas.  
Agrobiologia no. 3:99-107 My-Je '58. (MIRA 11:7)

1. Saratovskiy sel'skokhozyaystvennyy institut.  
(Sedges)

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Greater attention to housing construction for inland water transportation workers. Rech. transp. 16 no.6:22-25 Je '57. (MLRA 10:8)

1. Nachal'nik Upravleniya kapital'nogo stroitel'stva Ministerstva rechnogo flota.

(Housing)

YEGOROV, B.V.  
YEGOROV, B.V.

Major constructions in river transportation. Rech.transp.16  
no.11:44-45 N '57. (MIRA 10:12)

1. Nachal'nik upravleniya kapital'nogo stroitel'stva Ministerstva  
rechnogo flota.

(Hydraulic engineering)



YEGOROV, B.V., inzh.

A coordinating conference on the study of the low-pressure  
stages of steam turbines. Energomashinostroenie 8 no.11:36  
N '62. (MIRA 16:1)

(Steam turbines)

YEGOROV, B. V.

YEGOROV, B. V.: "Investigation of the dependence between transverse and linear deformations in rolling with unequal reductions". Moscow, 1955. Min Higher Education USSR. Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin. (Dissertation for the Degree of Candidate of TECHNICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

YEGOROV, B.V.

137-58-4-6994

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 98 (USSR)

AUTHORS: Polukhin, P. I., Yegorov, B. V.

TITLE: An Investigation of the Ratio of Transverse to Longitudinal Deformations in Rolling With Nonuniform Reduction (Issledovaniye zavisimosti mezhdru poperechnoy i prodol'noy deformatsiyami pri prokatke s neravnomernymi obzhatiyami)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 320-353

ABSTRACT: The effect of the major parameters of the rolling process upon the ratio between lateral and longitudinal deformations (D) and on the mean reduction ratio factor (MRF) is established. An empirical expression for the dependence of the MRF upon the non-uniformity factor of the D and upon the contours of the locus of D is derived. An analysis of formulas for determination of MRF is provided. A nomogram is constructed to speed calculations by means of the suggested equation.

B. Ye.

1. Rolling mills operation--Mathematical analysis

Card 1/1

*Kafedra prokatchi, Moskovskogo inst. Stali im. Stalina*

AUTHORS: Polukhin, P. I., Yegorov, B. V. SOV/163-58-1-24/53

TITLE: The Investigation of the Forward Flow in Rolling With Non-Uniform Heating (Issledovaniye operezheniya pri prokatke s neravnomernym obzhatiyem)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 127-132 (USSR)

ABSTRACT: In the present paper the results of investigations on the forward flow in rolling at non-uniform heating are described. In the determination of the forward flow  $S_h$  difficulties arise in the direct measuring of the output rate of the metal from the rolling. The oscillograms are taken for the determination of the output rate. These oscillograms show the following relationship:  $V_h = \frac{L_1}{t}$

The form of the projection of the deformation characterized by the ratio  $\frac{1}{b}$  exerts considerable influence on the magnitude of the forward flow as well as on the backward flow. When the ratio  $\frac{1}{b}$  is increased at constant values of  $F_1/F$  and constant

Card 1/2

SOV/163-58-1-24/55

The Investigation of the Forward Flow in Rolling With Non-Uniform Heating

deformation an intense development of the transverse deformation as well as a decrease of the forward flow and of the backward flow occurs. The influence of the factor of non-uniform deformation on the character of the decrease of the forward flow and the backward flow shows that at values of  $F_1/F = 1,0 - 0,65$  the forward flow and the backward flow slowly decrease, and at  $F_1/F = 0,65$  the decrease takes place more rapidly. There are 2 figures, 1 table, and 8 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 1, 1957

Card 2/2

SOV/137-58-11-22330

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 69 (USSR)

AUTHORS: Polukhin, P. I., Yegorov, B. V.

TITLE: A Contribution to the Determination of Average Unit Pressure in Rolling With Nonuniform Reductions (K opredeleniyu srednego udel'nogo davleniya pri prokatke s neravnomyimi obzhatiyami)

PERIODICAL: Sb. Mosk. in-t stali, 1958, Vol 38, pp 298-306

ABSTRACT: A presentation is made of the results of an investigation of the effect of reduction not uniform across the width of the strip upon the pressure between the rolls and the metal ( $M_e$ ) and its dependence upon the ratio of the area  $F_1$  of the more highly reduced portion of the cross section to the entire area of the strip  $F$  prior to rolling, and the ratio of the length of the contact area  $l$  to its width  $b$  prior to rolling. X and I elements were rolled. The pressure measurements were by carbon resistance gauges. It was found that the curves showing the ratio of deformation-resistance to the  $F_1/F$  and  $l/b$  ratios fall into the family of hyperbolas and that resistance to deformation drops as these ratios become larger.

Card 1/1

M. Z.

VEGOROV, B.V.

PHASE I BOOK EXPLOITATION SOV/8782

Moscow. Institute steel

Produktivno i obrabotka stali i splavov (Production and Treatment of Steel and Alloys) Moscow: Metallurgizdat, 1960. 462 p. (Series: Itai: Sbornik, 39) 2,100 copies printed.

Ed.: Ye. A. Borzoi. Ed. of Publishing House: S. I. Zingeri. Tech. Ed.: M. N. Kleymani. Editorial Council of the Institute: M. A. Glukhov, Professor, Doctor of Technical Sciences; V. P. Telyutin, Professor, Doctor of Technical Sciences; A. A. Zhukovitskiy, Professor, Doctor of Chemical Sciences; I. M. Kildin, Professor, Doctor of Technical Sciences; B. O. Lyubits, Professor, Doctor of Technical Sciences; I. M. Pavlov, Corresponding Member, Academy of Technical Sciences; and A. M. Pechvareny, Professor, Doctor of Technical Sciences.

REMARKS: This book is intended for technical personnel in industry, scientific institutions and schools of higher education, dealing with open-hearth and electric-furnace steelmaking, metal rolling, physical metallurgy, metallography, and heat-treatment. It may Card 1/10

Also be used by students specializing in these fields.

CONTENTS: The book contains results of theoretical and experimental investigations of metallurgical and heat-treating processes in open-hearth and electric furnaces. Data are included on the following: desulfurizing of pig iron outside the blast furnace, interaction of oxides of the carbide-forming metals with solid carbon, the change of content of gases in the bath of the open-hearth furnace in various periods of melting, intermetallicion of the homogeneity of deformation in rolling, the study of the nonuniformity of deformation in rolling, the dependence of the friction coefficient on the rolling process, the dependence of the rolling force on other problems in the production of steel. Articles on physical metallurgy and the heat treatment of steel are also mentioned. References accompany most of the articles. There are 207 references, both Soviet and non-Soviet.

Card 2/10

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Polyubin, P. I. Doctor of Technical Sciences, and B. V. Vektorov, Candidate of Technical Sciences [Department of Rolling]. Investigation of Nonuniformity of Deformation in Rolling Card 4/10 104

PAYLOV, I.M.; GANIN, N.P.; YEGOROV, B.V.; SHELEST, A.Ye.; SYUY TSUO-KHUA

Use of rotary bearings to investigate the rolling process. Izv.  
vys. ucheb. zav.: Chern. met. no.1:84-87 '60.

(MIRA 13:1)

1. Institut metallurgii AN SSSR.  
(Rolling (Metalwork))



YEGOROV, B V

PHASE I BOOK EXPLOITATION SOV/5291

Soveshchaniye po kompleksnoy mekhanizatsii i avtomatizatsii tekhnologicheskikh protsessov v mashinostroyenii. Ed, Moscow, 1956

Avtomatizatsiya mashinostroitel'nykh protsessov. t. III; Obrabotka rezaniyem i obshchiye voprosy avtomatizatsii (Automation of Machine-Building Processes. v. 3: Metal Cutting and General Automation Problems) Moscow, Izd-vo AN SSSR, 1960. 296 p. (Series: Its: Trudy, t. 3) 4,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: V. I. Dikushin, Academician; Ed. of Publishing House: V. A. Kotov; Tech. Ed.: I. P. Kur'ain.

PURPOSE: This collection of articles is intended for technical personnel concerned with the automation of the machine industry.

COVERAGE: This is Volume III of the transactions of the Second Conference on the Full Mechanization and Automation of Manufacturing Processes in the Machine Industry, held September 25-29, 1956. The transactions have been published in three volumes. Volume I deals with the hot pressworking of metals, and volume II, with the actuation and control of machines. The present volume deals with the automation of metal machining and work-hardening, and with general problems encountered in automation. The transactions on the automation of metal machining processes were published under the supervision of P. S. Pan'yanok and A. M. Karatygin, and those on the automation of work-hardening processes, under the supervision of F. A. Savel' and M. O. Yakobson. No personalities are mentioned. There are no references.

Efsher, Yu. B. On the Operation of the Pools in Automatic Production Lines 32

Lyudmirskiy, D. G. Experience of the SKB-6 (Special Design Office No. 6) in Designing and Mastering Automatic Production-Line Operations 43

Yegorov, B. V. Automation of Universal Metal-Cutting Machines for Mass Production 53

Neklyudov, G. I. Automatic Machining of Parts Used in Watchmaking 62

Automation of Machine-Building Processes (Cont.) SOV/5291

Yakobson, M. O. Automated Production of Gears and Splined Shafts 66

Koshkin, L. N. Automation of Manufacturing Processes Based on Rotary Transfer Machines 82

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Derbisher, A. V. Automation of Manufacturing Processes at the 1 GPZ [1st State Bearing Plant] 111

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Vasil'yev, V. S. Automatic Balancing Machines 129

Kuritsyn, A. D. New Advanced Processes for the Mass Production of Sliding Bearings 141

Card 4/7

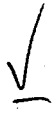
S/509/60/000/004/008/024  
E193/E183

AUTHOR: Yegorov, B.V.

TITLE: On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

PERIODICAL: Akademiya nauk SSSR. Institut metallurgii. Trudy, No.4, 1960. Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya, pp.117-122

TEXT: Non-uniform deformation, lateral spreading and pull-down tendencies are specific features of rolling of sections. In order effectively to deal with the problem of roll pass design for rolling of sections of an arbitrary shape, it is necessary to have a method of calculating the longitudinal and transverse deformation during rolling with non-uniform compression. The greatest difficulty in solving this problem is presented by the determination of the degree of lateral spreading in heavily compressed portions of the bar, and of the magnitude of the pull-down and pull-in effect in the lightly compressed parts. To solve this problem it is necessary to know the mean elongation of the whole bar; if this is known, it is possible to determine the cross-



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E193/E183

On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

section areas of each non-uniformly deformed part of the section after rolling, from which the degree of lateral spreading and the magnitude of pull-down and pull-in effects can be determined. Theoretical and empirical formulae for calculating mean elongation, derived by various workers (Refs. 4,5,6,7,8) are not sufficiently accurate. All these formulae are based mainly on the considerations of the extent to which the mean elongation coefficient is affected by those parts of the section which are either slightly or not at all compressed during rolling. However, it has been shown by P.I. Polukhin (Ref.2) that under conditions of non-uniform compression, the mean elongation coefficient depends not only on the ratio between the heavily and lightly compressed parts of the section, but also on the ratio between the length  $l$  of the deformation region and its width  $b$ , this ratio determining the system of stresses in the volume of the deformed material: under certain conditions the effect of the latter factor may be more marked than that of the former. Since, under actual rolling

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On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

conditions, the  $l/b$  ratio may vary within wide limits, the present author considered it necessary to investigate the effect of the variation of  $l/b$  on the mean elongation coefficient. He studied also how this parameter is affected by the variation of the so-called coefficient of non-uniformity of deformation which is given by  $F_1/F$ , where  $F_1$  is the area of the more heavily compressed part of the cross-section of the bar and  $F$  is its total cross-section area. (Both  $l/b$  and  $F_1/F$  relate to the bar before rolling). Beams and cross-shaped specimens were used in the experiments. The increase in the width (from 8 to 63 mm) of the more heavily compressed parts of the cross-section of a specimen was attained by varying the  $F_1/F$  (from 1.0 to 0.27) and  $l/b$  (from 1.0 to 4.0) ratios. All experiments were carried out at 1050 °C on a laboratory rolling mill 3AK (ZAK) with the roll diameter equal 360 mm. The experiments were carried out at the laboratoriya prokatki Moskovskogo instituta stali (Rolling Laboratory, Moscow Steel Institute). The results are reproduced in Card 3/9 ✓

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On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

Fig.1 in the form of a three-dimensional diagram in which the mean elongation coefficient,  $\lambda_{cp}$ , is plotted as a function of  $\ell/b$  and  $F_1/F$ ; (the diagram was constructed from the results obtained for constant draft,  $\mu$ ). Based on analytical treatment of a large number of experimental data, obtained both by the present author and by P.I. Polukhin (Ref.2), an empirical formula for the mean elongation coefficient was derived in the form

$$\lg \lambda_{cp} = \frac{(b/\ell)^{4f}}{1 + (b/\ell)^{4f}} [1,5 - 0.047 (b/\ell)^{4f}] \frac{F_1}{F} \lg \mu \quad (1)$$

where  $\mu$  is the draft ( $H/h$ , where  $H$  and  $h$  are the height of the bar before and after rolling), and  $f$  is the coefficient of contact friction. The validity of this formula was confirmed by the fact that values calculated with its aid were in good agreement with experimental results obtained by other workers (Refs.2,5,6,7). The average discrepancy between the calculated and experimental values amounted to 1-3%. To facilitate determination of  $\lambda_{cp}$ , a Card 4/9

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On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

nomogram was constructed which is reproduced in Fig.2, where the method of using it is also illustrated. The following conclusions were reached. (1) In rolling with non-uniform compression, the ratio between longitudinal and transverse deformation, as well as the mean elongation coefficient, are greatly affected by the shape of the horizontal projection of the deformation region. Increasing the  $l/b$  ratio (at a given magnitude of  $F_1/F$ ) brings about an increase of the transverse deformation and a corresponding decrease of the longitudinal deformation. At certain values of the  $l/b$  ratio, the transverse deformation may not only equal, but even exceed the longitudinal deformation. (2) When rolling (at a given  $l/b$  ratio) is carried out in such a manner that some parts of the cross-section of the bar are either not at all or only lightly compressed, a considerable decrease in the longitudinal deformation and a corresponding increase in the transverse deformation is observed. (3) The empirical formula derived and the nomogram constructed by Card 5/9

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E193/E183

On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

the present author can be used for rapid solution of various practical problems encountered in rolling with non-uniform compressions.

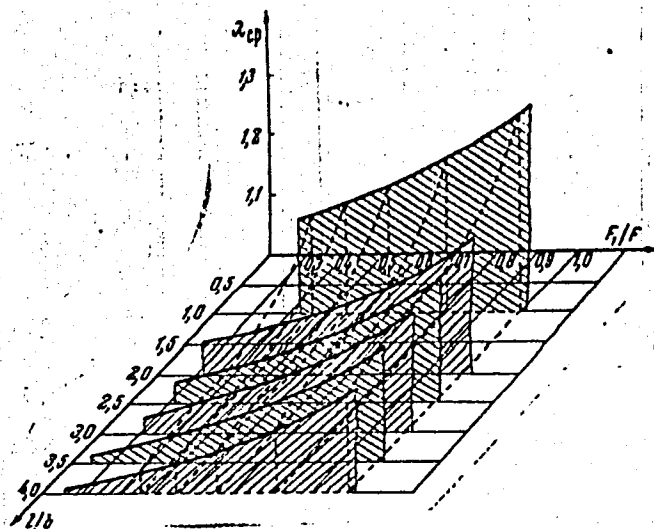
There are 2 figures and 8 Soviet references.

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On the Determination of ...

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Fig.1



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Рис. 1. Объемная диаграмма зависимости коэффициента средней вытяжки  $\lambda_{cp}$  от  $F_1/F$  и  $l/b$  при постоянном высотном обжатии  $\mu$



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On the Determination of the Coefficient of Mean Elongation During  
Rolling with Non-Uniform Compression

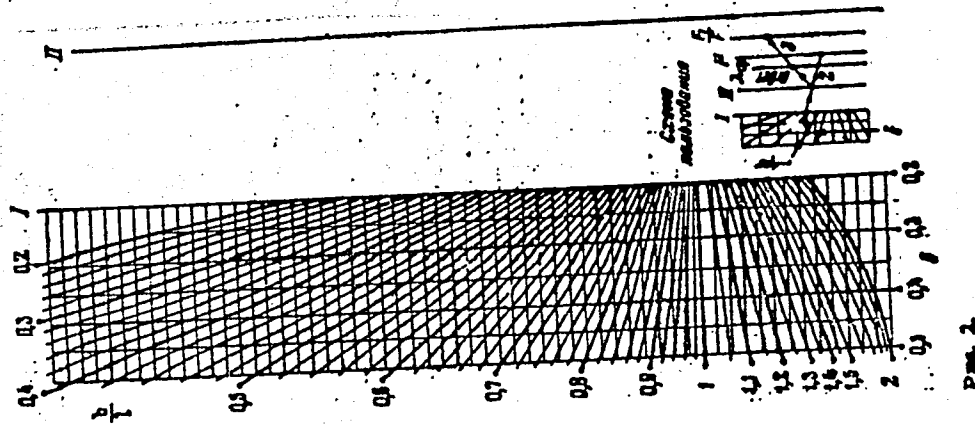


Fig. 2

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On the Determination of the Coefficient of Mean Elongation During Rolling with Non-Uniform Compression

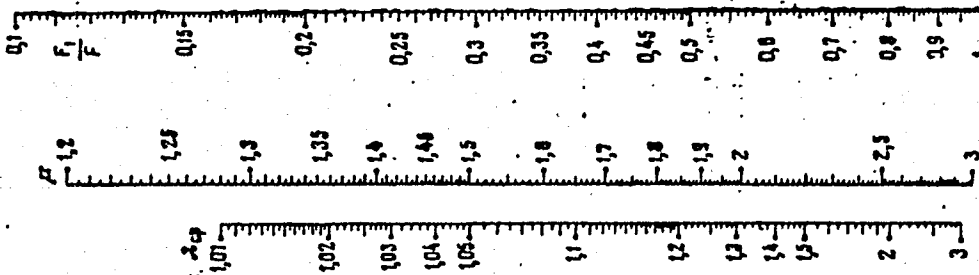


Fig.2 continued

Card 9/9

PODIKHIN, P.I., doktor tekhn.nauk; YEGOROV, B.V., kand.tekhn.nauk

Investigating nonuniformity of deformation during rolling.  
Sbor.Inst.stali no.39:104-112 '60. (MIRA 13:7)

1. Kafedra prokatki Moskovskogo ordena Trudovogo.Krasnogo  
Znameni instituta instituta stali im. I.V.Stalina.  
(Rolling(Metalwork)) (Deformations(Mechanics))

PAVLOV, I.M.; GANIN, N.P.; YEGOROV, B.V.; SHELEST, A.Ye.: SYUY TSUO-KHUA

Investigating the process of rolling with smooth rolls by the  
method of rotating bearings. Izv.vys. ucheb. zav.; Chern. met.  
no.3:67-73 '61. (MIRA 14:3)

1. Moskovskiy institut stali i institut metallurgii AN SSSR.  
(Rolling(Metalwork))

PAVLOV, I.M.; YEGOROV, B.V.; SHELEST, A.Ye.; SYUY TSUO-KHUA

Investigating the process of rolling with smooth rolls with  
the help of a split roll strain gauge. *Izv.vys.ucheb.zav.;*  
*chern.met.* 4 no.9:87-94 '61. (MIRA 14:10)

1. Moskovskiy institut stali i Institut metallurgii Akademii nauk  
SSSR.

(Rolls (Iron mills)---Testing) (Strain gauges)

L 29991-65 EWT(1)/EWP(m)/EWG(s)-2/EWF(v)/EPR/EPA(bb)-2 Pd-1/Pe-5/Ps-4/Pw-4 WH  
ACCESSION NR: AR4046167 S/0285/64/000/008/0004/0004

SOURCE: Ref. zh. Turbostroyeniye. Otdel'nyy vypusk, 8.49.19

30  
B

AUTHOR: Yegorov, B. V.

TITLE: An approximate evaluation of the effects of moisture level on patterns of radial distribution of flow parameters behind nozzles 2)

CITED SOURCE: Tr. Leningr. korablestroit. in-ta, vy p. 42, 1964, 163-166

TOPIC TAGS: steam flow, nozzle exit velocity, radial velocity distribution, steam moisture level

TRANSLATION: An approximate solution was sought to the problem of velocity distribution behind a nozzle lattice, with consideration given to effects of moisture level. The discussed idealized flow model was assumed to be streamline, axisymmetric, monophasic and with the radial constituent of velocity omitted. Variations in actual velocity at which moist steam escapes from a nozzle, produced by dispersion of droplets, are considered with the aid of equations for radial equilibrium, energy, moist steam isentropy at a constant exponent, the process equation and Goodenough's technique. Compatible solution of the

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ACCESSION NR: AR4046167

equation system within the framework of the supplemental assumptions discussed above leads to a final equation enabling one to evaluate the effects of steam moisture level on radial velocity distribution behind a nozzle. Bibl. with 4 titles. O. Yakovlevskiy

SUB CODE: PR, ME

ENCL: 00

Card 2/2

L 55953-65 EPA/EWT(m)/EWP(w)/EWP(f)/EWP(v)/EPF(n)-2/EPR/T-2/EWP(k)/EPA(bb)-2 Pf-l/  
Pas-l/Ps-l WW/EM

ACCESSION NR: AR5016961

UR/0265/65/000/006/0004/0004  
621.165.001.24

38  
B

SOURCE: Ref. zh. Turbostroyeniye. Otdel'nyy vypusk, Abs. 6.49.15

AUTHOR: Yegorov, B. V.

TITLE: On the problem of calculating a turbine stage with relatively long blades,  
working a two-phase medium

16

CITED SOURCE: Tr. Leningr. korablestroit. in-ta, vyp. 44, 1964, 125-130

TOPIC TAGS: turbine blade, turbine

TRANSLATION: Complex physical phenomena occur in a stage with relatively long blades, under the action of a two-phase medium. A method is proposed for analyzing the flow structure at varying moisture content of steam in the circulating part of the stage. This method takes into account the flow characteristics of a two-phase stream.

SUB CODE: PR, ME

ENCL: 00

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L 63272-65 EWI(l)/EWP(m)/EWA(d)/FCS(k)/EWA(h)/EWA(c) Rd-1/P1-4 V74  
UR/0373/65/003/005/0175/0177

ACCESSION NR: AP5016244

AUTHOR: Yegorov, E. V. (Moscow)

33  
32  
B

TITLE: On the relaxation equation for vibrational degrees of freedom in diatomic gases

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 3, 1965, 175-177

TOPIC TAGS: diatomic gas, vibrational relaxation, shock wave, nonequilibrium flow, distribution function

ABSTRACT: The results of V. N. Zaigulev (Ob uravneniyakh fizicheskoy aerodinamiki. Inzh. zh. 1963, T. 3, vyp. 1) were used to investigate the relaxation equations for a harmonic oscillator. The solution is applicable to an arbitrary magnitude of the ratio  $(T - T_1)/T$ . The distribution function for the gas is defined by

$$f_N^{(e)}(r, v, N) = n \left( \frac{m}{2\pi kT} \right)^{3/2} \exp \left[ -\frac{mv^2}{2kT} - \frac{E_N}{kT_1} \right]$$
$$E_N = hv \left( N + \frac{1}{2} \right)$$

During elastic collisions the vibrational energy is conserved, and consequently the energy equation for the vibrational mode is represented by

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ACCESSION NR: AP5016244

$$n \frac{dB_i}{dt} = \sum_{N, N', N''} E_N \int \int \int_{(\infty, 1)} (f'f'' - ff') p d\epsilon_1 d\epsilon_2$$

$$B_i = \left[ \sum_{(N)} E_N \exp \frac{-E_N}{kT_i} \right] \left[ \sum_{(N)} \exp \frac{-E_N}{kT_i} \right]^{-1}$$

For an infinite number of vibrational levels the energy equation and the relaxation time become

$$\frac{dB_i}{dt} = \frac{[E(T) - B_i]}{\tau}, \quad \tau = \frac{n}{2\sqrt{\pi}} \left( \frac{m}{kT} \right)^{1/2} \left( 1 - \exp \frac{-E_0}{T} \right) P_{01}$$

The value of  $p_{01}$  is substituted from W. J. Witteman's paper (Vibrational Relaxation in Carbon Dioxide. J. Chem. Phys., 35, N 1, 1961), and the results calculated on a digital computer for  $O_2$  and  $N_2$  and plotted as  $\tau$  versus  $T^{-1/3}$ . Compared with experimental data, the computed curves show a good agreement over a wide temperature range. "The author expresses his gratitude to V. N. Zhigulev for his constant influence on the work." Orig. art. has: 6 equations and 1 figure.

ASSOCIATION: none  
SUBMITTED: 27Apr64  
NO REF SOV: 003  
Card 2/2 *llc*

ENCL: 00  
OTHER: 003

SUB CODE: ME

L 1120-66 EWT(1)/EWP(m)/FCS(k)

ACC NR: AP5027218

SOURCE CODE: UR/0020/65/164/006/1249/1252

AUTHOR: Yegorov, B. V.; Zhigulev, V. N.; Kuznetsov, V. M.

ORG: Central Institute of Aerohydrodynamics im. N. Ye. Zhukovskiy (Tsentral'nyy aerogidrodinamicheskii institut)

TITLE: On equations of aerodynamics in the presence of binary molecular processes

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1249-1252

TOPIC TAGS: aerodynamics, gas kinetic equation, degree of freedom, gas relaxation, vibration relaxation, heat transfer, heat diffusion, thermal diffusion, gas viscosity

ABSTRACT: Processes taking place in gas flows with excited internal degrees of freedom are considered. The various methods and results obtained by different authors for solving hydrodynamic equations on the basis of the kinetic theory of gases are analyzed and discussed. A specific case called "two-temperature" relaxation is considered when  $l_t \sim l_i \ll l_{tt} \sim L$ , where  $l_t$  and  $l_i$  are the lengths required to establish equilibrium in translational and internal degrees of freedom, respectively,  $l_{tt}$  is the length of relaxation region, and  $L$  is the characteristic dimension of a body. Expressions for the dissipative coefficients (viscosity, diffusion, and thermal diffusion) are derived, and the influence of the resonance transitions on heat conductivity is evaluated. The results obtained for  $O_2$ ,  $N_2$ ,  $Cl_2$ , and  $I_2$  show the strong influence of nonequilibrium on the magnitude of the heat flux. Orig. art. has: 2 figures. [AB]

Card 1/1

L 4120-66

ACC NR: AP5027218

SUB CODE: ME/ SUBM DATE: 03Mar65/ ORIG REF: 006/ OTH REF: 005/ ATD PRESS: 4/29

Card 2/2

KRIVOUKHOV, V.A.; YEGOROV, B.Ye.; BRUSHTEYN, B.Ye.; MARKOV, A.I.; CHER-  
VYAKOV, A.G.; BESPAKHOTNYY, P.D.; BELOUSOV, A.I.; CHUBAROV, A.D.;  
KARATYGIN, A.M., kand. tekhn. nauk, retsenzent; IVANOVA, N.A.  
red. izd-va; UVAROVA, A.F., tekhn. red.

[Machinability of heat-resistant and titanium alloys] Obraba-  
tyvaemost' rezaniem zharoprochnykh i titanovykh splavov. Mo-  
skva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961.  
243 p. (MIRA 14:8)  
(Metal cutting) (Heat-resistant alloys) (Titanium alloys)

YEGOROV, D., vneshtatnyy instruktor

From all to each and from each to all. Avt.transp. 40 no.4:  
7-9 Ap '62. (MIRA 15:4)

1. Bashkirskiy oblastnoy komitet professional'nogo soyuza  
rabotnikov svyazi, rukochnik avtotransporta i shosseynykh dorog.  
(Bashkiria--Highway transport workers)

YEGOROV, D.A.

ZAKHAROV, A.Ye., inzhener; YEGOROV, D.A., inzhener.

Constructing reinforced concrete cylindrical arch shells. Stroitel'stvo  
no.5:10-20 My '53. (MLRA 6:6)

(Arches) (Reinforced concrete construction)

YEGOROV, D. A.

Selecting the most efficient column system for multistoried cotton mills. Iav.vys.ucheb.zav.; tekhn.tekst.prom. no.3:154-157 '60.  
(MIRA 13:7)

1. Ivanovskiy tekstil'nyy institut im. M.V. Frunze.  
(Textile factories)



YEGOROV, D. A.

They serve the public. Vest. svyazi 23 no.4:23-24 Ap '63.  
(MIRA 16:4)

1. Vneshtatnyy instruktor Bashkirskogo oblastnogo komiteta  
professional'nogo soyuza rabotnikov svyazi, rabochikh avto-  
mobil'nogo transporta i shosseynykh dorog.

(Telecommunication—Employees)

YEGOROV, D. F.

Differentsial'naya geometriya. M. Pgr., Gos. izd. (1924), 1-288.  
Sur les surfaces, engendrees par la distribution des lignes d'une famille doubles.  
Matem. SB., 31 (1924), 153-184.  
Sur les congruences W A focales reglees. Atti accad. naz. Lincei, 10 (1929),  
145-148.

SO: Mathematics in the USSR, 1917-1947  
edited by Kurosh, A. G.,  
Markushevich, A. I.,  
Rashevskiy, P. K.  
Moscow-Leningrad, 1948

YEGOROV, L. F.

Mathematical Reviews  
Vol. 14 No. 11  
Dec. 1953  
History

*[Handwritten signature]*  
11/54

Egorov, D. Statement on N. N. Luzin's dissertation, "The integral and trigonometric series," presented to obtain the degree of Master of Pure Mathematics. Uspehi Matem. Nauk (N.S.) 8, no. 2(54), 105-110 (1953). (Russian)  
This is the evaluation of Luzin's thesis [Moscow Univ., 1916] by one of his "official opponents". After discussing the work, Egorov recommends that Luzin be granted the degree of Doctor of Pure Mathematics, as was actually done by the faculty.

Yegorov, D.F.

AUTHOR  
TITLE

THOMAN S.M., YEGOROV D.F.

~~XXXXXXXXXX~~ 20-2-50/67

New data on the stratigraphy and tectonic of the right-bank under-reach of the Kolyma river.

PERIODICAL

(Novyye dannyye po stratigrafii i tektonike pravoberezh'ya (reki) Kolymy v yeye nizhnem techenii.- Russian)  
Doklady Akademii Nauk SSR 1957, Vol 113, Nr 2, pp 421-424 (U.S.S.R.)

ABSTRACT

Up to the most recent times the geological structure of the Anyuychaim mountains and of the Oloy-flexure remained almost unexplored. There are only 2 papers on it. In the course of the last 3 years extensive researche has been carried out by geologists of Seymchansoh's Geological Administration of the Dal'stroy. Within the Anyuy folding zone three large structure elements can be distinguished: the northern and southern anticlinal and the zone deviding them. In the structure of the cross-section of these zones precambrium, lower palaeozoic formation, and mesozoic formation take part. The oldest rock appears in the centre of the northern anticlinal situated farthest norther: biotite-cordierite and other gneiss, mica- and chlorite-seracite-slate with the intermediate layers of marble and quartzite subordinate to them. Their thickness surmounts 1500 m. Higher up in the cross-section the carbonate complex is relieved by immense

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20-2-50/67

New data on the stratigraphy and tectonic of the right-bank under-reach of the Kolyma river. ~~XXXXXXXXXX~~

terrigenous formations of the Anyuy-series. The Keorveem-series (over 1500 m thick) obviously corresponds to the permian-lower triassic. It forms the northern and southern parts of the anticlinal zones. The Pauktuvaam-series lies upon it. The Halobia austriaca and Monotis scutiformis, which were found here, give evidence of the carnic (?) age. Their lower part ought to correspond to the middle triassic. It is 1300-1500 m thick. It represents the wings of the northern and southern anticlinal zones. The central Anyuy synclinal zone is filled with sediments of the noric deposit of the upper triassic. It is 700-800 m thick. The particularities of the tectonic of the quoted structure elements are: the northern anticlinal zone has a length of 350 km and is cut off by the sea coast. In the central part of this system of large anticlinal elevations the rock of the crystalline and lower palaeozoic base occurs horstlike. Precambrian crystalline rock is extended in meridional direction laterally to the folding zone. Anticlinal linear elevations are extended in the northwest of the central horst and can be followed for 80-120 km. The anticlinal zone in the south is similar, but the rock of the original base is not unearthed here. It can

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New data on the stratigraphy and tectonic of the right-bank under-reach of the Kolyma river. ~~20-2-50/67~~

be followed up to 400 km from the Ilirney-lakes towards the Kolyma-mouth. The zone is formed by 2 large anticlinal elevations, which are separated from each other by a triassic zone in consequence of the depression of the joint. The central synclinal zone is extended on an area of about 400 to 100 km. The triassic sediments by which it is filled form a system of narrow, linear foldings. The formations representing the structure of the Anyuy-chains contain grandiorite intrusions, different sorts of granite from a upper cretaceous age. Compared with other structures, in which the Verkhoyansk-complex appears, here the following peculiarities can be found: pyroclastical formations are lacking in the cross-section of the Anyuy-series. In the central part of the anticlinal zone precambrian and lower palaeozoic rocks of the base come forth. These facts and the intrusions of grandiorite indicate that the Anyuy-folding-zone is situated in those parts of the geosynclinal area which are situated relatively more in the interior. From the south the Anyuy-folding-zone

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New data on the stratigraphy and tectonic of the right-bank under-reach of the Kolyma river.

is confined by the Oloy-flexure of the upper jurassic-lower cretaceous age. (Pauktuvam-series and noric deposit). In the lower part of the cross-section upper-jurassic Aucella- layers are developed, represented by sandy cretaceous-stones, cretaceous, molymict and tuffogene limestones. Total thickness of the series is 400-500 m. It does not lie conformably on its base and is dated into the Oxfordian-Upper-Volga deposit. Further up lies rock of the upper cretaceous. The lower mass in the north-western part of the flexure is represented by a carboniferous, effusive-sedimentary series which consists of sandstone, carboniferous slate, tuff-conglomeration, tuff-brecchia, tuff and tuff-limestone. Numerous plant-remains, quoted by name, are added. The thickness is 300-400 m. To the east the pyroclastical formations increase, coal falls sharply. Above it lies a series of andesite, andesite-datolite and their tuffs, its thickness is about 1000 m. On the top of the cross-section lie acid lavas: liparites, quartz-porphyrines and their tuffs, its total thickness is 300-400 m. The Oloy-flexure is a large structure with a deep deflected base. Its northern and southern limits are underlined by the axes of anomalous

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20-2-50/67

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values from  $\Delta Z$ , which are here concentrated. The same thing happens in the central part of the flexure, where this traces back to tectonical-magmatic factors, as it seems. The geological structure of the Oloy-flexure does not show any connection with the epoch of the development of the fundamental structures within the domain of mesozoic folding, but it is a younger formation.

(1 illustration, 5 citations from Slavic publications)

ASSOCIATION: not given.

PRESENTED BY: N.S. SHASKIY, Member of the Academy

SUBMITTED: 13.10. 1956

AVAILABLE: Library of Congress.

CARD 5/5



TIL'MAN, S.M.; YEGOROV, D.F.

Structural relations between the relic massifs of northeastern Asia  
and the Mesozoic fold areas. Geol. i geofiz. no.9:49-65 '64.  
(MIRA 19:7)

1. Severo-Vostochnyy kompleksnyy nauchno-issledovatel'skiy institut,  
gorod Magadan.

YEGOROV, D. I.

USSR/General Problems of Pathology. Comparative Oncology. Tumors  
Humans

U-7

Abs Jour : Ref Zhur - Biol., No 13, 1958, No 61187

Author : Mar'yeva K.V., Yegorov D.I.

Inst : Molotovsk Medical Institute

Title : Lymphogranulomatosis and Sarcoma of the Stomach

Orig Pub : Tr. Molotovsk. med. in-ta, 1957, vyp. 26, 124-128

Abstract : Describes cases of isolated lymphogranulomatosis of the stomach with a tumor which produced stenosis of the pylorus, and two cases of sarcoma of the stomach (reticulosarcoma and leiomyosarcoma). The clinical picture had its peculiarities; the patients were younger than cancer patients, there was a lack of symptoms until the mucus membrane was affected at an advanced stage, there were periodically occurring profuse hemorrhages, an absence of continuous latent bleeding, a fairly good appearance on the part of the patients, the appearance of anemia and cachexia at a late date, normal acidity and an absence of lactic acid in the gastric content.

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PROBLEMS of Pathology: Comparative Oncology. Tumors  
in Humans

U-7

Abs Jour : Ref Zhur - Biol., No 13, 1958, No 61187

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962430001-5"

Toentgen examination of the stomach revealed: defective filling of the stomach with even, slightly undulating edges, retained peristalsis. Sarcoma, most often, originates in the submucous layers of the pyloric area or in the large curvature of the stomach. -- R.P. Zolotnitskaya

Card : 2/2

YEGOROV, D.M., rentgenotekhnik

Immobilizing table for X-ray examination of sheep and other  
small animals. Veterinariia 41 no.11:105-106 N '64.  
(MIRA 18:11)

1. Ivanovskaya oblastnaya veterinarnaya poliklinika.

YEGOROV, D.T., dotsent; KATINA, A.M., assistant

Neurodystrophic changes in the bones and soft tissues in the lower extremities following injuries of the spinal cord and its roots.  
Vest. rent. i rad. 36 no. 2:65-67 Mr-Apr '61. (MIRA 14:4)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. V.P. Rudushkevich) i kafedry rentgenologii s meditsinskoy radiologiyey (zav. - dotsent M.M.Mikhaylov) Voronezhskogo meditsinskogo instituta (dir. - prof. N.I. Odnoralov).  
(SPINAL CORD--WOUNDS AND INJURIES) (EXTREMITIES, LOWER)

YEGOROV, D.T., dotsent (Voronezh, ul. Komissarzhevskoy, d.14-a, kv.9)

Teaching of orthopedics and traumatology at the Institute of  
Medicine in Voronezh. Ortop., travm. i protez. 25 no.1:67 Ja '64.  
(MIRA 17:9)

**AUTHOR:** YEGOROV, D.V. PA - 3626  
**TITLE:** A Mechanical Two-Piece Disk. (Mekhanicheskaya raz'yemnaya shayba, Russian)  
**PERIODICAL:** Stanki i Instrument, 1957, Vol 28, Nr 6, pp 35 - 35  
**ABSTRACT:** For the mechanical cleaning of the surfaces of workpieces before painting or galvanic coating a two-piece disk is used (as per illustration) by the Kazaner plant for dental equipment. Two silumin half-rims are fastened by means of screws to a steel flange, which can be shifted after loosening the screws. A strip of hide on cloth having a width that is equal to that of the disk is laid round the disk and the two ends are introduced into the gap of the two half-rims, where they are securely fastened by tightening the screws. Both half-rims are covered with rubber of 5 - 6 mm thickness. By an accurate and precise finish of these disks, which are well balanced, and by turning them off after being mounted it is possible to reduce radial deviation from the true to a minimum. Exchanging the hide is possible without removing the disk.  
**ASSOCIATION:** Not given  
**PRESENTED BY:**  
**SUBMITTED:**  
**AVAILABLE:** Library of Congress  
Card 1/1

YEGOROV, D.Ye.

Method of switching-on the electromagnetic brakes and engine  
in their joint operation in mixing rolls. Kauch. i rez. 24  
no.11:50 '65. (MIRA 19:1)

1. Chuvashskiy elektrotekhnicheskiy nauchno-issledovatel'skiy  
zavod.

YEGOROV, E.A.; MANUYLOV, M.M.; LUK'YANOV, A.K.

Modernized molding machine "International." Lit.proizv. no.2:  
43-44 F '60. (MIRA 13:5)  
(Foundries--Equipment and supplies)



YEGOROV, I.V.

Possibility of using neutron methods for the quantitative  
determination of mercury in natural occurrences. Vop. rud.  
geofiz. no.5:117-124 '65. (MIRA 18:9)

YEGOROV, E.V.

Possibility of using electron accelerators for a photoneutron  
beryllium determination. Vop.rud.geofiz. no.3:147-159 '61.  
(MIRA 15:8)

(Beryllium)

(Radioactive prospecting)

YEGOROV, E.V.; POLYAKOV, B.I.

Taking into account the self-absorption of photoneutrons during the quantitative determination of the content of beryllium in ores. Vop. rud.geofiz. no.4:74-77 '64. (MIRA 18x1)

POLYAKOV, B.I.; KLEVTSOV, P.P.; YFGOROV, E.V.

A laboratory equipment for the quantitative determination of  
the Clark beryllium concentrations. Vop. rud. geofiz. no.5:  
142-145 '65. (MIRA 18:9)