USSR

SUYETIN, P. YE., et al., Inzhenerno-Fizicheskiy Zhurnal, Vol 19, No 5, Nov 70, pp 933-935

H_2-Ne, D_2-Ne and H_2-Ar. The authors include a table depicting the experimental diffusion coefficients at a pressure of 760 mm Hg.

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Lasers & Masers

USSR

UDC: 621.375.82

SAMSON, A. M., KOTOMTSEVA, L. A., LOYKO, N. A., GORCHAHUK, I. M.

"Emission Kinetics of a Laser With a Nonlinear Delayed-Action Element"

Minsk, Kinetika generatsii OKG s nelineynym elementom zapazdyvayushchego deystviya. In-t fiz. AN BSSR (cf. English above. Institute of Physics of the BSSR Academy of Sciences), 1973, 44 pp, ill., mimeo. (from RZh-Fizika, No 11, Nov 73, abstract No 11D1330)

Translation: On the basis of balance equations, an analysis is made of the kinetics of operation of a laser with a nonlinear delayed-action element. An example of such an element is a Kerr cell which increases or reduces laser losses with increasing emission power. An analysis of these equations showed that with certain values of delay time and parameter of nonlinearity the lasers emit regular undamped radiation peaks with a recurrence rate approximately quadruple the delay time. The authors determine the regions of variations in parameters of the laser and the nonlinear element where such pulsations arise. An investigation is made of the influence of noises on the kinetics of laser operation in the mode of undamped pulsations of emission power, and their stabilizing action is observed. Analytical evaluation are illustrated by computer solution of differential equations. Bibl. 32.

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USSR

UDC: 77.018

IVANOV, A. P. and LOYKO, V. A.

"Mathematical Analysis of the Characteristic Curve of Photolayer Blackening"

Minsk, Zhurnal Prikladnoy Spektroskopii, No 2, 1973, pp 300-304

Abstract: In an earlier paper published by the authors named above (Vestsy AN BSSR, ser. fyz.-mat. navuk, No 5, 1971, p 113) the characteristic curve for blackening of photographic material was computed for two limiting situations, when the dimensions of the photo emulsion grains are much larger or much smaller than the wavelength of the incident light. The present paper presents an analysis of the effects of various factors on the characteristic curve for coarse-grained emulsions. In this theoretical analysis the authors begin with an equation, derived in the earlier article, for the directional optical density. The meaning of the parameters in the equation is given. The authors assert that a similar mathematical analysis can be used for fine-grained photolayers.

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USSR

UDC 77.01.011

IVANOV, A. P., LOYKO, V. A., Institute of Physics, Academy of Sciences BSSR,

"The Quantum Sensitivity of Photographic Emulsion Grains"

Minsk, Doklady Akademii nauk BSSR, No. 4, Apr 72, pp 308-310

Abstract: An approach to making a quantitative analysis of the probability of the development of a grain and hence judging the sensitivity of a photographic grain is presented. The quantum sensitivity of a grain is defined as the minimum number of protons which must be absorbed in order to obtain the capacity for development, i.e., to form a center from r_{min} silver atoms. It is noted that a development center consisting of a certain number of silver atoms r_{min} must be formed in one of the sensitivity centers (a trap) of the photographic grain for the development of the grain. It is noted that when there is one trap there is no difficulty in finding the conditions for blackening of the grain but if there are several traps in the grain, a determination of the quantum sensitivity is complicated since competition for photon capture occurs between the centers, i.e., probability processes are present. Under these

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USSR

IVANOV, A. P., LOYKO, V. A., Doklady Akademii nauk BSSR, No. 4, Apr 72, pp 308-310

conditions one can only speak of the probability of the development of a grain P which has absorbed some given number of quanta i. An analytical expression is derived for $P_N(i)$, where N is the number of identical traps in a grain. Graphs are presented showing P_N as a function of i for r_{min} = 2 and 4 and N = 1, 4, 10, 20 and 100. The graphs show that the probability P reaches a value equal to unity more rapidly for smaller r_{min} and N. The greatest values of the probability for the development of the grain are achieved for small i considerably different from small r. It is noted that the data obtained can be used for a quantitative analysis of the probability of the development of a grain as a function of factors determining the maturity of the emulsion and also can be used for judging the sensitivity of a photographic grain.

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USSR UDC 77.018

IVANOV, A. P., and LOYKO, V. A., Institute of Physics, Academy of Sciences Belorussian SSR

"Mathematical Description of Characteristic Density Curve of Photographic Layers"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Matematicheskikh Nauk, No 5, 1971, pp 113-119

Abstract: Using methods of statistics and scattering theory, the authors derive an equation for the characteristic curve of a photolayer for polydispersed fine-grain and coarse-grain emulsions, permitting a detailed analysis of density as a function of exposure for various parameter values of the photosensitive material. The attenuation index of developed layers of unit thickness is determined for fine particles (Rayleigh scattering) and for coarse particles with the use of methods of geometrical optics. The directional optical density is calculated from the known distribution of light in the layer. It is shown that the most important parameters on which the shape of the characteristic curve depends are constants of the particle size distribution function, the

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IVANOV, A. P., and LOYKO, V. A., Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Matematicheskikh Nauk, No 5, 1971, pp 113-119

optical density of the layer, the relation of the attenuation indices for maximally developed and undeveloped material, and the minimum quantum number necessary for the development of grain having one photoelectron trap.

USSR

UDC 614.72:613.155.3

LOYT, A. O., KOCHANOV, M. M., and ZAUGOL'NIKOV, S. D., Institute of Biophysics, Ministry of Health USSR

"Correlation Between the Maximum Permissible Concentrations of Some Chemical Substances in the Air of Industrial Plants and in the Atmosphere of Residential Areas"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 5, 1971 pp 15-17

Abstract: On the assumption of a mathematical relationship between the toxicity and maximum permissible concentrations (MPC) of chemical compounds in the air of industrial plants and in the atmosphere of residential areas, the author worked out the following equations for use in determining the MPC of 40 different substances (hydorcarbons, phenols, ketones, alcohols, etc.):

$$\lg x = 2.32 + 1.16 \lg y \quad r = +0.65$$

$$\lg y = -2.00 + 0.86 \lg x \quad r = +0.65$$

where x is the MPC in the air of an industrial plant, y is the mean daily MPC (in milligrams per m^3) in the atmosphere of a residential area, and r is the correlation factor. The following equations were derived from a comparison of the mean daily (x) and maximum single (y) MPC in the atmosphere of a resi-

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USSR

LOYT, A. O., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 5, 1971, pp 15-17

dential area

$$\lg x = 0.54 + 1.16 \lg y \quad r = +0.88$$
$$\lg y = 0.47 + 0.84 \lg x \quad r = +0.55$$

The calculated MPC were found to deviate from the experimentally determined MPC by 2 orders in only 3 substances and by 1 order in all the others.

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USSR

UDC 621.396.666(088.8)

LOYTER, P. N., TUYEV, L. T.

"Cascade Amplifier with Automatic Gain Control"

USSR Author's Certificate No 254581, Filed 3 June 68, Published 9 Mar 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D135P)

Translation: This author's certificate introduces a cascade amplifier with automatic gain control containing cascades with regulatable transistors, an automatic gain control detector, a low-frequency filter, and a DC amplifier. The amplifier is distinguished by the fact that in order to improve the operating stability at low frequencies and to increase the reliability, an additional transistor is connected parallel to the transistors of the indicated cascade amplifier. The base of this auxiliary transistor is connected to the output of the DC amplifier via a phase inverter.

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USSR

UDC 532.533

LOYTSYANSKIY, L. G.

Mekhanika zhidkosti i gaza (Mechanics of Liquid and Gas), Moscow, "Nauka", 1973, 847 pp

Abstract: The fourth edition contains an exposition of the main divisions of the mechanics of liquid and gas: kinematics, statics, and dynamics. General differential equations of the dynamics of liquid and gaseous media are derived for both uniform and nonuniform, homogeneous and heterogeneous media. Methods are considered for integrating these equations in problems of incompressible and compressible, ideal and viscous liquids and gases in different (laminar, turbulent) modes of flow. The book gives a considerable number of examples of applications of these solutions which illustrate the great possibilities of current methods of the mechanics of liquid and gas in engineering practice.

This course in the mechanics of liquid and gas is intended for undergraduate and graduate students in colleges and technical academies, and for engineers and scientists.

With 307 illustrations and 34 tables.

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USSR

LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

Chapter VIII

DYNAMICS OF A VISCOUS INCOMPRESSIBLE FLUID.
MOTIONS AT LOW REYNOLDS NUMBERS

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LOYTSYANSKI, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

Chapter X

TURBULENT MOTIONS OF AN INCOMPRESSIBLE VISCOUS FLUID

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LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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USSR

LOYTSYANSKIY, L. G., Mekhanika zhidkosti i gaza, "Nauka", 1973

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USSR UDC: 681.3:51

AYLAMAZYAN, A. K., BELOTELOV, V. F., DOLGOPOLOV, V. V., KRAVTSOV, V. G., LOZA, T. M., MARKINA, N. V., KHAKHIN, M. D.

"A Device for Computing Aerodynamic Parameters"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, 1970, Author's Certificate No 276528, Filed 28 May 69

Abstract: This Author's Certificate introduces a device for computing aerodynamic parameters such as altitude, velocity, and Mach number. The unit contains converters of primary information to binary code which are connected through a shift register and adder to the input of an arithmetic device. Also included in the computer are a memory unit, decoder, pulse generator, control device, and recording unit. As a distinguishing feature of the patent, the electrical circuit is simplified and the overall dimensions are reduced by connecting the most significant digital places of one of the registers in the arithmetic device to the least significant digital places of the address section of the command register in the control unit through diodes controlled by the decoder and the pulse generator. The most significant digital places of the address section and the code section of the command register in the control device are connected to the memory unit.

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USSR

UDC 621.314.58(088.8)

LOZANOVSKIY, A.L.

"Frequency Converter"

USSR Author's Certificate No 265262, filed 29 July 67, published 18 June 70 (from RZh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 3B581P)

Translation: The suggestion pertains to frequency converters with direct coupling with a single-phase input and three-phase output. With the object of control of the output voltage, the secondary winding of a single-phase supply transformer is subdivided [illegible] rectifier [ventil'] circuit contains a number of series-connected thyristors, the taps from the transformer sections are connected across a semiconductor diode to the common points of the series-connected thyristors. 1 ill. A.S.

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USSR

UDC 632.95

KHANNANOV, T. M., FATKULLINA, N. S., KULAKOV, V. N., LOZBEN', I. F., GOLUBEVA, V. A., and TROPIN, I. V.

"Synthesis of α-(Dimethylnaphthyl)-methylcarbamates From Petroleum Raw Material"

Tr. NII neftekhim. proiz-va (Works of the Scientific Research Institute of the Petrochemical Industry), 1970, vyp. 2, pp 84-86 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N533)

Translation: The starting material used for synthesis of alpha-dimethylnaphthyl methylcarbamates is 2,6-dimethylnaphthalene and dimethylnaphthalene concentrates prepared from a narrow light gas-oil fraction by catalytic cracking and sulfonated with H_2SO_4 or chlorosulfonic acid. The resultant sodium sulfonates are subjected to alkaline fusion with excess KOH at 280-310°C. Dimethyl-alpha-naphthols are converted by a conventional method to the corresponding methylcarbamates: α-2,6-dimethylnaphthyl methylcarbamate, boiling point -- 134-6°C; α-dimethylnaphthyl methylcarbamate, boiling point -- 158-68°C/5-6. Preliminary tests of both specimens showed that they are close to Sevin in their biological activity.

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USSR

UDC 681.32

MALAKHOVA, M. M., PLYASHKEVICH, YU. N., GRANEVA, V. M., LOZDENNIK, I. M., BATUASHVILI, SH. A., and KHEYFETS, V. I.

"Updating the Minsk-22 Computer"

Tr. N.-i. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob. prom-sti (Works of Scientific-Research and Planning Institute for the Mechanization and Automation of Production Control in the Automobile Industry), 1971, vyp. 1, pp 132-141 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B75 by V. F.)

Translation: The article describes a number of modernizations in the Minsk-22 computer and gives circuits and descriptions of changes affecting the card and magnetic tape input units, the start-stop input mechanism, etc. Eight illustrations. Bibliography with two titles.

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USSR

MALAKHOVA, M. M., PLYASHKEVICH, Yu. N., GRANEVA, V. I., LOZDERNIK, I. M., BATUASHVILI, Sh. A., KHEYFETS, V. I.

"Modernization of the Minsk-22 Computer"

Tr. N.-i. i Proekt. In-ta Mekhaniz. i. Avtomatiz. upr Proiz-vom v Avtomob. Prom-sti. [Works of Scientific Research and Planning Institute for Mechanization and Automation of Production Control in the Motor Vehicle Industry], No 1, 1971, pp 132-141, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V482 by the author's).

Translation: A number of modernizations of the Minsk-22 computer are described. Diagrams and descriptions are presented of changes concerning the punch card input device, magnetic tape reader, input start stop mechanism card puncher and matching of magnetic drum to computer.

1/3 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TEMPERATURE DEPENDENCE OF THE EPR SPECTRUM IN NICKEL CHLORIDE -U-

AUTHOR-(02)-LOZENKO, A.F., RYABCHENKO, S.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 807-13

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EPR SPECTRUM, NICKEL COMPOUND, CHLORIDE, THERMAL EFFECT, SPIN LATTICE RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1453 STEP NO--UR/0181/70/012/003/0807/0813

CIRC ACCESSION NO--AP0120241

UNCLASSIFIED

2/3 016 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEMP. DEPENDENCE WAS INVESTIGATED OF THE EPR SPECTRUM OF SINGLE CRYSTAL NICL SUB2 AT 49-460DEGREESK AND 9360-12980 MHZ. IN THE ENTIRE TEMP. RANGE, THE EPR LINE HAS A LORENTZIAN SHAPE. THE LINEWIDTH IS INDEPENDENT OF THE FREQUENCY OF THE MEASUREMENT. AT 200-460DEGREESK, THE WIDTH INCREASES WITH TEMP. AS DELTAETA SUBTAU EQUALS DELTA SUB1 PLUS ALPHATAU PRIME2, WHERE DELTA SUB1 EQUALS 48 PLUS OR MINUS 5 OE, ALPHA EQUALS (6.35 PLUS OR MINUS 0.14) TIMES 10 PRIME NEGATIVE3 OE-DEGREE PRIME2. AT TT-200DEGREESK THE DEPENDENCE OF LINEWIDTH ON TEMP. IS GREATER. THE TEMP. DEPENDENCE IS TREATED AS BROADENING DUE TO SPIN LATTICE RELAXATION. THE DELTA SUB1 GIVES THE SPIN SPIN WIDTH OF THE EXCHANGE NARROWED EPR LINE, AND ALPHATAU PRIME2 EQUALS H-GBETATAU SUB1, WHERE TAU SUB1 IS THE TEMP. DEPENDENT COMPONENT OF THE SPIN LATTICE RELAXATION TIME. THIS RELAXATION IS RELATED TO THE 2 PHONON PROCESS OF TRANSFER OF ENERGY DIRECTLY FROM THE ZEEMAN SYSTEM TO THE LATTICE. THE MAGNITUDE OF ALPHA AGREES WITH THE KRONING-VAN FLECK MECHANISM. AS THE TEMP. APPROACHES THE PHASE TRANSITION POINT, THE LINEWIDTH INCREASES SHARPLY AS DELTAETA SUBTAU EQUALS DELTAETAINFINITY (TAU MINUS TAU SUBN-TAU) PRIME NEGATIVEN, WHERE DELTAETAINFINITYPARALLEL TO EQUALS 43.6 PLUS OR MINUS 1.6 OE, DELTAETA INFINITY PERPENDICULAR TO EQUALS 36.3 PLUS OR MINUS 1.3 OE, N PARALLEL TO EQUALS 0.49 PLUS OR MINUS 0.03, N PERPENDICULAR TO EQUALS 0.62 PLUS OR MINUS 0.03 (INDICES PARALLEL TO AND PERPENDICULAR REFER TO THE ORIENTATION OF THE C SUB3 AXIS OF THE CRYSTAL RELATIVE TO THE EXTERNAL MAGNETIC FIELD).

UNCLASSIFIED

3/3 016 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120241

ABSTRACT/EXTRACT--SUCH BEHAVIOR AGREES WITH THE THOERY WHICH TAKES INTO ACCOUNT FLUCTUATIONS OF THE SHORT RANGE ORDER OF THE SPIN CLOSE TO THE ANTIFERROMAGNETIC TRANSITION. EPR WAS ALSO INVESTIGATED OF THE CLUSTERS OF NI PRIME2POSITIVE IN CDCL SUB2 ISOMORPHOUS TO NICL SUB2.

FACILITY: INST. FIZ., KIEV, USSR.

UNCLASSIFIED

AN0017118

UR 9016

AUTHOR-- LOZHECHNIKOV, YE., CANDIDATE OF TECHNICAL SCIENCES, DOCENT, CHIEF, RESEARCH SECTION OF THE BELORUSSIAN POLYTECHNICAL INSTITUTE

TITLE-- THE EFFECT OF CREATIVE WORK

NEWSPAPER-- SOVETSKAYA BELORUSSIYA, FEBRUARY 11, 1970, P 2, COLS 1-6

ABSTRACT-- THE ARTICLE REPORTS ON THE RESEARCH DONE AT THE BELORUSSIAN POLYTECHNIC INSTITUTE. TODAY SOME 1,200 FACULTY MEMBERS OF THE INSTITUTE, AND ENGINEERS, TECHNICIANS, AND WORKERS ARE WORKING IN 70 CHAIRS, 4 PROJECT LABORATORIES, AND 5 RESEARCH AND INDUSTRIAL LABORATORIES OF THE INSTITUTE. NEARLY 20,000 STUDENTS ARE LEARNING 34 SPECIALTIES. THE CHAIRS AND LABORATORIES OF THE INSTITUTE ARE CURRENTLY INVOLVED IN 118 PROJECTS, 21 OF WHICH ARE DEALING WITH THE MOST IMPORTANT SUBJECTS INCLUDED IN THE UNION AND REPUBLICAN PLANS. IN addition TO THAT, INDUSTRY IS FUNDING IN EXCESS OF 1.5 MILLION RUBLES WORTH OF RESEARCH.

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AN0017118

THE CHAIR "MACHINERY AND TECHNOLOGY OF MECHANICAL WORKING OF METALS", HEADED BY V. P. SEVERDENKO, MEMBER OF THE BELORUSSIAN ACADEMY OF SCIENCES, HAS DEVELOPED A TECHNOLOGY FOR ROLLING SAP STRIP WHICH IS LESS EXPENSIVE AND MORE EFFICIENT THAN THE ONE CURRENTLY USED. THE CHAIR ALSO EXPERIMENTS WITH ROLLING OF ALUMINUM GRANULES INTO THIN BAND, AND ULTRASONIC ROLLING.

RESEARCH CONDUCTED UNDER THE DIRECTION OF PROFESSORS G. M. YAKOVLEV AND G. YE. POSPELOV, AND DOCENTS M. L. KHANIN, A. A. BARTASHEVICH, I. S. TSITOVICH AND L. S. LYAKHOVICH IS ALSO MENTIONED.

THE AUTHOR CLAIMS THAT THE FACULTY CARRIES A BIG TEACHING LOAD WHICH, COUPLED WITH SHORTAGE OF ENGINEERS AND TECHNICIANS, HINDERS THE RESEARCH.

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19600329

USSR UDC:621.771.6

SEVERDENKO, V. P., LOZHECHNIKOV, YE. B., BAYEK, M. A. and STEPANENKO, A. V., Belorussian Polytechnical Institute

"Rolling of Precipitation-Hardened Materials with Imposition of Ultrasonic Oscillations"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 74, pp 14-16

Abstract: This article studies the possibility of intensifying the breakdown of oxides in strips rolled directly from nickel precipitation hardened with aluminum by subsequent rolling between rolls to which ultrasonic oscillations are applied. Strips 0.41 mm thick produced by direct rolling of the powder were sintered in a vacuum then subjected to 50% rolling in 8 passes in rolls with antiphase azimuthal application of oscillations. Application of the ultrasonic oscillations causes more intensive breakdown of oxide particles during the process of rolling. Determinations of microhardness on the surface and cross section of the strips at temperatures from 20-900° C showed no differences in hardness. However, testing of flat annealed specimens showed an increase in tensile strength in the materials subjected to ultrasonic oscillations.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002201820015-0"

USSR UDC 620.004.1

BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B.

"New Materials in Technology"

Novye Materialy v Tekhnike [English version above], Minsk, Belarus' Press, 1971, 272 pages.

Translation of Annotation: This book presents a description of new materials, increasingly used in the production of industrial products. The basic physical, mechanical and technological properties of high-alloy steels and alloys, rare metals, high-purity materials, polymer, silicates, metal ceramic and mineral ceramic materials are presented.

The book is designed for engineering and technical workers in machine building plants and enterprises in other branches of industry.

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USSR UDC 620.004.1

BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B., Novye Materialy v Tekhnike, Minsk, Belarus' Press, 1971, 272 pages.

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USSR UDC 620.004.1

BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B., Novye Materialy v Tekhnike, Minsk, Belarus' Press, 1971, 272 pages.

USSR' UDC 620.004.1
BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B., Novye Materialy v Tekhnike, Minsk, Belarus' Press, 1971, 272 pages.

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USSR UDC 620.004.1

BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B., Novye Materialy v Tekhnike, Minsk, Belarus' Press, 1971, 272 pages.

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USSR UDC 620.004.1

BEL'SKIY, Ye. I., DMITROVICH, A. M., LOZHECHNIKOV, Ye. B., Novye Materialy v Tekhnike, Minsk, Belarus' Press, 1971, 272 pages

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USSR

UDC: 621.016.3:669.71

SEVERDENKO, V. P., LOZHECHNIKOV, YE. B., and REPIK, R. A., Belorussian Polytechnic Institute

"Structure and Technological Heredity of Rolled Metal From Aluminum Grains"

Kiev, Poroshkovaya metallurgiya, No 12, Dec 71, pp 25-31

Abstract: This study concerns the effects of various factors, including grain size, temperature, degree of cogging, roll gap, structure, resistivity, etc. on the properties of rolled metal made from aluminum grains. The test material was AD-1 granular aluminum produced by centrifugation. Involved were five standard grain sizes of nearly spheroidal shape. The rolling was both cold and heated to 300, 350, 400, 450, 500, and 550°C. Cited are test data on above temperature ranges, annealing temperatures, number of passes, cogging degrees, changes in mechanical properties versus grain size, and changes in resistivities versus grain size. The data show that the optimal rolling temperatures of aluminum granules range from 400 to 450°C. The first cogging of the granules determines the mechanical properties of the end product: with

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SEVERDENKO, V. P., et al, Poroshkovaya metallurgiya, No 12, Dec 71, pp 25-31

an increase in cogging, both the mechanical and physical properties of the material increase. The highest properties for the material were achieved at 40-50% reductions in area followed by annealing. Inclusions of oxides of the granular boundaries disintegrated during deformation and distributed over the matrix have no appreciable effect on the mechanical properties of the material. A 2% addition of aluminum powder appears to strengthen the material without a perceptible reduction of plasticity. (4 illustrations, 1 table, 7 biblio. references)

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Powder Metallurgy

USSR

UDC 621.762.01

SEVERDENKO, V. P., LOZHECHNIKOV, YE. B., and BAYEK, M. A.,
Belorussian Polytechnical Institute

"Production and Investigation of Powders of Dispersion-Hardened Compositions Based on Nickel and Copper"

Minsk, Akademiya Nauk BSSR, Izvestiya, Seriya Fiziko-Tekhnicheskikh Nauk, No 2, 1970, pp 115-119

Translation: Results are presented of the preparation and investigation of powders of dispersion-hardened compositions based on nickel and copper with aluminum, silicon, zirconium, and hafnium oxides. A description is given of a unit for mixing and dispersion of powder compositions in an ultrasonic field. The results of an election microscopic investigation of the degree of particle dispersion are presented.

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USSR

UDC 621.762.01

SEVERDENKO, V. P., LOZHECHNIKOV, YE. B., and BAYEK, M. A.,
Physico Technical Institute, Academy of Sciences Belorussian SSR

"Problems of Determining the Power Parameters of Roll Compacting"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 4, 1971, pp 124-127

Abstract: The power parameters of roll compacting have been studied previously, and the basic laws of distribution of the specific forces of pressure of the metal on the rolls, friction, total pressure, and rolling power have been established. However, a number of problems, such as the presence of nondeformable inclusions (carbides, oxides), the effect of the metal thickness, and other factors on the power conditions of roll compacting have not been considered. In order to study these power parameters, experiments were performed with respect to roll compacting of strips from type PZhZM powdered iron (GOST 9849-61), type PNK-1 nickel powder (GOST 9722-61), type PM-2 powdered copper (GOST 4960-49), and precipitation hardened nickel and copper. The dependence of the variation of these parameters on the thickness

USSR

SVERDENKO, V. P., et al., Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 4, 1971, pp 124-127

of strips of identical density was established. A formula for calculating the specific energy of roll compacting which takes into account the density and thickness of the strip was obtained:

$$\lg A_{spec} = k\gamma_s - ch_s,$$

where A_{spec} is the specific rolling power, kilowatts-hour/ton; k is a coefficient which depends on the powdered material; γ_s is the strip density, g/cm^3; h_s is the strip thickness, mm; and c is the proportionality coefficient taking into account the effect of strip thickness. Empirically determined values of the coefficients k and c are presented for the materials studied.

2/2

1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ANTHRACENE ELECTROLYTE INTERFACE. I. DARK INJECTION OF HOLES DURING THE ADSORPTION OF IODINE FROM IODINE IODIDE SOLUTIONS -U-

AUTHOR-(02)-LOZHKIN, B.T., BOGULSLAVSKIY, L.I.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 423-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANTHRACENE, ELECTROLYTE, ADSORPTION, IODINE, PHOTOMETRIC ANALYSIS, DIPOLE MOMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1142 STEP NO--UR/0364/70/006/003/0423/0425

CIRC ACCESSION NO--AP0121701

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121701

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF I ON ANTHRACENE WAS DETD. PHOTOMETRICALLY IN AQ. SOLNS. THE SAMPLE WAS SHEKEN FOR 5 MIN IN 3 ML OF THE SOLN. THE ADSORPTION ISOTHERM HAD A PLATEAU AT A DEGREE OF COVERAGE THETA EQUALS 1. AT SMALL CONCNS. THE DEPENDENCE OF THE DEGREE OF COVERAGE ON I CONCN. IS A CURVE CONCAVE TOWARDS THE CONCN. AXIS; AT A CONCN. GREATER THAN 5 TIMES 10 NEGATIVE PRIME2 M, THE AMT. OF ADSORBED I INCREASES LINEARLY, REACHING 9 MONOLAYERS. INCREASE OF I CONCN. LEADS TO THE INCREASE OF THE DARK CURRENT, A MARKED INCREASE BEING NOTED FOR CONCNS. GREATER THAN 0.1 M. FROM THE DEPENDENCE OF THE EFFECTIVENESS OF THE I SUBS PRIMEO YIELDS I PRIME NEGATIVE TRANSFORMATION, I. E., OF THE EFFECTIVENESS OF INJECTING HOLES, ON THE DEGREE OF COVERAGE OF THE SURFACE, IT IS ASSUMED THAT THE DIPOLE MOMENT DECREASES WITH THE DEGREE OF COVERAGE AT 0 SMALLER THAN THETA SMALLER THAN 1. INTERACTIONS BETWEEN SLIGHTLY POLARIZED ADSORBED PARTICLES REDUCE THE EFFECTIVENESS OF INJECTING HOLES INTO THE ANTHRACENE.

FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr. AP0100303 Abstracting Service: CHEMICAL ABST. Ref. Code UR0181

115522a Surface state of anthracene single crystals studied with low-energy electron pulses. Vannikov, A. V.; Lozhkin, B. T.; Boguslavskii, L. I. (Inst. Elektrokhim., Moscow, USSR). *Fiz. Tverd. Tela* 1970, 12(2), 557–61 (Russ). Hole and electron motion in single-crystal anthracene was studied with low energy electron impulses (3–15 keV). Electron life times and trap concns. were estd. as a function of the distance to the crystal surface. At the surface, a sharp decrease in the lifetimes and an increase in trap concn. relative to the bulk values, were obsd. The energy necessary for free carrier pair formation is ~400 eV in the bulk of the specimen and ~100 eV in the near-surface layer. Increase in the free carrier generation efficiency at the surface is related to the presence of a strong elec. field detd. by a space charge of trapped electrons which increases the probability of dissocn. of bound electron-hole pairs into free carriers.

REEL/FRAME 19841706

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--DELAY OF UNCONDITIONED STIMULI IN THE MOTOR ALIMENTARY CONDITIONING -U-
AUTHOR--LOZHKIN, N.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP 10-13
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RAT, CONDITIONED REFLEX, FOOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/0802 STEP NO--UR/0247/70/020/001/0010/0013

CIRC ACCESSION NO--AP0052239
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON 30 RATS WITH ELABORATED MOTOR FOOD CONDITIONED REFLEXES, A STUDY WAS MADE OF THE INFLUENCE OF THREE VARIANTS OF DELAY OF UNCONDITIONED STIMULI FROM CONDITIONED ON CONDITIONED REFLEX PARAMETERS: 1. PLACING FOOD INTO THE FEEDING TROUGH SIMULTANEOUSLY WITH THE BEGINNING OF CONDITIONED STIMULATION AND BEFORE CONDITIONED OPENING OF THE TROUGH (1ST GROUP); 2. PLACING THE FOOD IMMEDIATELY AFTER THE CONDITIONED REACTION AND REGARDLESS OF ITS SPEED (2ND GROUP); 3. PLACING THE FOOD REGULARLY IN FIVE SECONDS AFTER THE BEGINNING OF THE CONDITIONED SIGNAL AND REGARDLESS OF THE SPEED OF THE REACTION (3RD GROUP). IT HAS BEEN ESTABLISHED THAT IN ALL THREE VARIANTS THE INVESTIGATED INSTRUMENTAL CONDITIONED REFLEXES ARE SUBJECT TO ALL THE LAWS STATES FOR THE FOOD SALIVARY AND DEFENSIVE MOTOR CONDITIONED REFLEXES: STABILIZATION, EXTINCTION, RESTORATION, SPECIALIZATION (ELABORATION OF DIFFERENTIATION). THERE WERE NO SIGNIFICANT DIFFERENCES BETWEEN THE GROUPS OF ANIMALS IN THE STABILITY OF CONDITIONED REFLEXES, THE SPEED OF THEIR EXTINCTION, RESTORATION AND ELABORATION OF DIFFERENTIATION. THE 3RD GROUP EXHIBITED SOME INCREASE IN THE CONDITIONED REFLEXES LATENCIES AS COMPARED WITH THE 1ST AND 2ND GROUPS, APPARENTLY OWING TO THE INTERFERENCE OF RETARDING INHIBITION IN THE PHASE OF DELAY OF UNCONDITIONED SIGNALS.

UNCLASSIFIED

USSR

UDC 539.126.34

AZIMOV, S. A., ARIPOV, R., GULYAMOV, U. G., LOZHKIN, O. V.

"Some Characteristics of the Formation of ^{8}Li Fragments With a π^--Meson Energy of 45 Gigaelectron Volts"

Tashkent, Izvestiya Akademii Nauk Uz SSSR, Seriya Fiziko-Matematicheskikh Nauk, No 3, 1970, pp 52-55

Abstract: This paper contains the results of an experimental investigation of the reactions of formation of ^{8}Li fragments during interaction of π^--mesons, the impulse of which is 45 gigaelectron volts/second, with nuclei of an emulsion. The study of fragmentation in the very high-energy range is of interest in connection with certain hypotheses regarding the mechanism of these phenomena: the assumption of the effect of meson showers on the formation of fragments in nuclear splitting, the concept of shock waves in nuclear matter caused by primary particles, and the hypothesis of intranuclear reactions in clusters caused by cascade nucleons. In the experiment the method of nuclear emulsions was used to obtain maximum information about the characteristics of the formation of ^{8}Li fragments in nuclear

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USSR

AZIMOV, S. A., et al, Izvestiya Akademii Nauk Uz SSSR, Seriya Fiziko-Matematicheskikh Nauk, No 3, 1970, pp 52-55

splitting. Nuclear emulsions of the B-R type were irradiated by a beam of π^--mesons with an energy of 45 gigaelectron volts in the IFVE accelerator.

Investigation of the ionization characteristics of particles leaving T-type tracks in the emulsions demonstated that the B^8 nuclei in these tracks constitute 5 percent for AgBr target nuclei. Out of 306 T-type tracks in four cases there were two electron tracks at the point of decay of the fragment. The probability of formation of T-type tracks in split AgBr nuclei with $N_h > 7$ when considering the geometric corrections turned out to be 0.022 + 0.0014; the total cross section of formation of ^8Li from AgBr is (6.4)±2) millibarns; the cross section of formation of two fragments of ^8Li in one splitting is 0.1 millibarn and ^8Li from light nuclei (C, N, O)~0.5 millibarns. A figure is presented showing the frequency of formation of ^8Li as a function of the number of beams N_h. Just as for lower energies the cross section of formation of ^8Li depends on the number of strongly ionizing particles in the split, and it

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USSR

AZIMOV, S. A., et al, Izvestiya Akademii Nauk Uz SSSR, Seriya Fiziko-Matematicheskikh Nauk, No 3, 1970, pp 52-55

increases with the number N_{π}. From the data it is noted that the generation of fragments is not connected with the number of relativistic particles. Comparison of the data obtained with the results of investigating ^{8}Li with lower energies of the incident particles (in the vicinity of $E > 10$ gigaelectron volts) reveals certain peculiarities of fragmentation in the given energy range: low variation of the total cross section of formation of ^{8}Li and practical constancy of the parameters determining the kinematic characteristics of ^{8}Li (anisotropy of the angular distribution, statistical parameters of the energy spectrum $\bar{E}$, E_0, σ).

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LIMITING ENERGY RESOLUTION OF THIN DETECTORS OF THE DE-DX TYPE IN THE E SUBALPHA EQUALS 5-9 MEV RANGE -U-

AUTHOR-(04)-AVDEYCHIKOV, V.V., GRIONEV, G.F., LOZHKIN, O.V., PERFILOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 210-17

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SEMICONDUCTOR DETECTOR, SILICON SEMICONDUCTOR, ALPHA PARTICLE DETECTOR, ALPHA SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1045 STEP NO--UR/0048/70/034/001/0210/0217

CIRC ACCESSION NO--AP0110735

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0110735
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTL. STUDIES OF 10.8, 13.3, 23.1, 26.2, AND 39.2 MU THICK SI DETECTORS OF THE DE-DX TYPE WERE CARRIED OUT WITH STD. ALPHA PARTICLE SOURCES. A FORMULA FOR THE LIMITING ENERGY RESOLN. IS GIVEN.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--15OCT70

TITLE--QUASI-REGULARITY OF INFINITE SYSTEMS IN PROBLEMS OF THE THEORY OF ELASTICITY FOR PLATES WITH CIRCULAR HOLES -U-

AUTHOR-(03)-KOSMODAMIANSKIY, O.S., LOZHKIN, V.M., SHALDIRVAN, V.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR. DOPOVIDI, SERIIA A FIZIKO TEKHNICHNI I MATEMATICHNI NAUKI, VOL. 32 MAR. 1970, P. 248-250.

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ELASTICITY, BIBLIOGRAPHY, HOLE IN STRUCTURE, METAL STRESS, STRAIN, STRESS STRAIN DIAGRAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0987 STEP NO--UR/0441/70/032/000/0248/0250

CIRC ACCESSION NO--AT0118152

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0118152

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROOF OF THE QUASI-REGULARITY OF AN INFINITE SYSTEM OF LINEAR ALGEBRAIC EQUATIONS DESCRIBING THE STRESS-STRAIN STATE OF AN ELASTIC ISOTROPIC CIRCULAR PLATE WITH A FINITE NUMBER OF CIRCULAR HOLES. THE PROBLEM IS REDUCED TO THE DETERMINATION OF TWO FUNCTIONS OF TWO COMPLEX VARIABLES ACCORDING TO PROCEDURES GIVEN BY MUSKHELISHVILI (1965) AND SAVIN (1968). FACILITY: AKADEMIIA NAUK UKRAINS'KOI RSR, OBCHISLIUVAL'NII TSENTR, DONETSK, UKRAINIAN SSR.

UNCLASSIFIED

Instrumentation and Equipment

UDC 669.295.048

USSR

GANYUKHIN, V. I., and LOZHKIN, YU. A.

"Experience in Developing and Introducing Electric Furnaces for Reduction and Distillation of Titanium Sponge"

V sb. Opyt sozdaniya i vnedreniya krupn. elektroterm. oborud. (Experience in Creating and Introducing Large Electrothermic Equipment -- Collection of Works), 1970, pp 152-153 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G182 by G. Svodtseva)

Translation: The Department of Resistance Furnaces of SKB [Special Design Office] of NZETO [Neva Electrothermic Equipment Plant] has developed SShZ-15.22.5/10-NO2 and SShV-15.30/9-NO1 electric furnaces intended for production of titanium sponge and its distillation. In the development of the designs of the electric furnaces consideration was given to operating experience with furnaces produced earlier. Zigzag heaters were installed, and distances between heaters and apparatus were increased, making it possible to lengthen heater service life to 1.5 to 2 years. In the SShV-15.30/9-NO1 furnace a rubber gasket is fitted into the groove of the water-cooled flange; it is moved as far away as possible from the hot working zone and operates reliably. For more intensive and even cooling of the retort along the cross-section,

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USSR

GANYUKHIN, V. I., and LOZHKIN, YU. A., V sb. Opyt sozdaniya i vnedreniya krupn. elektroterm. oborud., 1970, pp 152-153

an air-cooling system was developed and manufactured, consisting of three air ducts of variable vertical section. Furnace efficiency: 1.5 tons of sponge per cycle.

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USSR

UDC 541.49:546.791:546.9

GRINBERG, A. A. (Deceased), PETRZHAK, G. I., and LOZHKINA, G. S.

"Tetravalent Uranium Compounds With Complex Platinum Cations"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 879-880

Abstract: New complex uranium(IV) salts were synthesized: $[Pt(NH_3)_4]_2[U(C_4H_4O_6)_2(C_2O_4)_2]$ -- ditartratodioxalatouraneate of tetramineplatinum(II) -- and $[Pt(NH_3)_6][U(C_2O_4)_4] \cdot 3hH_2O$ -- tetraoxalatouraneate of hexamineplatinum(IV). It was shown that the derivative of uranoxalic acid with tetracharged platinum(IV) cation is the least soluble one in water among uranoxalic acid salts with mono-, tri-, and tetracharged complex cations.

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USSR

UDC 541.49:546.791:546.841

GRINBERG, A. A., (DECEASED), PETRZHAK, G. I., and LOZHKINA, G. S.

"Tetravalent Uranium and Thorium Benzoylacetonates"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 904-906

Abstract: The IR spectra of benzoylacetonates of thorium and uranium are identical, indicating similarities in the structures of these compounds. The decomposition points were determined to be 190° for uranium benzoylacetonate and 209° for the thorium complex. The solubility in alcohol at 20°C was studied in a search for isomers of these compounds. However, it was not possible to isolate any isomeric forms of these complexes, probably because of rapid rearrangement inside the internal sphere.

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USSR

UDC 541.49:546.841

GRINBERG, A. A., (DECEASED), PETRZHAK, G. I., and LOZHKINA, G. S.,

"Complex Compounds of Thorium with Organic Ligands"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 836-840

Abstract: To obtain mixed oxalate-citrate derivatives of thorium, crystalline thorium oxalate was dissolved in 0.1 M solution of potassium citrate, the solution was cooled and alocohol was added with stirring, precipitating the product: potassium dicitratooxalatothoreate $K_4[Th(C_4H_4O_6)_2 \cdot (C_2O_4)_2] \cdot 3 H_2O$, decomposition point 279°C. Potassium ditartratodioxalatothoreate $K_4[Th(C_4H_4O_6)_2 \cdot (C_2H_4)_2] \cdot 3H_2O$, decomposition point 243°C was obtained analogously. Both compounds had structures similar to the $U^{(VI)}$ complexes. They are fine white crystalline products, stable in air, soluble in water and dilute nitric, hydrochloric, and sulfuric acids. Infrared spectra of both compounds are quite similar, indicating similarity in their structures. An assumption is made that thorium and uranium form the citrate complexes by H^+ exchange of the hydroxyl and two carboxyl groups; in the oxalate-tartrate complex the addition of the tartrate ion occurs obviously by hydrogen exchange of the hydroxyl and carboxyl groups.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EFFECT OF SURFACE ACTIVE AGENTS ON MASS TRANSFER IN AERATED CONCRETE -U-
AUTHOR-(02)-ALTSHULER, M.A., LOZHKINA, T.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1335-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SURFACE ACTIVE AGENT, MASS TRANSFER, CONCRETE, ORGANIC SULFUR COMPOUND/(U)OP7 SURFACE ACTIVE AGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1868 STEP NO--UR/0020/70/191/006/1335/1338

CIRC ACCESSION NO--AT0132130
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AT0132130
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF SURFACE ACTIVE AGENT ADDNS. ON THE WATER REQUIREMENTS, COMPETITION FOR WATER BY THE CEMENT PASTE AND POROUS FILLER MATERIAL, FILLING OF VOIDS WITH WATER, AND THE STRENGTH OF THE AEREATED CONCRETES ARE DISCUSSED. SPECIMENS WERE MADE OF A SLAG CEMENT AND SAND (ONIEPER) WITH SP. SURFACES OF 3700 AND 100-3500 CM PRIME2-G, RESP., AND 80 KG-M PRIME3 EXPANDED PERLITE SAND (0.5-6.0 MM), WATER-CEMENT (W-C) RATIOS IS SMALLER THAN 1.0 AND OP-7, SULFANOL, OR DIALKYLTHIOPHOSPHORIC ACID (NA SALT) ADDNS. EQUATIONS USEFUL IN DETG. WATER DISTRIBUTION IN AIR ENTRAINED CONCRETE WERE DEVELOPED AND CALCNS. AGREED WITH EXPTL. DETD. VALUES. STRENGTHS OF PERLITE CONCRETE AEREATED WITH OP-7 ARE SHOWN AS A FUNCTION OF W-C AND ATTAINED A MAX. (CONST.) STRENGTH OF SIMILAR TO 75 KG-CM PRIME2 AT W-C SIMILAR TO 1.0. FACILITY: VSES. NAUCH.-ISSLED. PROEKT -KONSTR. INST. NEFTEPERERAB. NEFTEKHIM. PROM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 577.42:591.0.44

LOZINA-LOZINSKIY, L. K.

Ocherki po Kriobiologii (Outline of Cryobiology), Leningrad, 1972, 288 p

Translation:

Annotation

The book deals with the adaptation and resistance of unicellular organisms, poikilothermic animals, and animal cells and tissues to low and ultralow temperatures. Data are presented on the life and range of poikilothermic animals at temperatures around and below 0°C. Ecological and physiological adaptations to low temperatures in relation to seasonal changes in climate and other environmental conditions are described. Considerable attention is devoted to supercooling and freezing as the main phenomena of cold hardiness of organisms and to their survival after extra- and intracellular freezing. To aid in the understanding of the mechanisms of the resistance of biological systems to the low and ultralow temperatures used in medicine, agriculture, and other branches of the economy, data are presented on the effect of those temperatures on biologically important substances, enzymes, and cells. Theories of injury after freezing and warming at the molecular and cellular levels are examined. Owing to the relevance of deep cold for anabiosis and space biology, the subject is reviewed in some detail.

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USSR

LOZINA-LOZINSKIY, L. K., Ocherki po Kriobiologii, 1972, 288 p

Contents

USSR

UDC 547.29+665.592+663.1

LOZINOV, A. B., Candidate of Biological Sciences, and FINOGENOVA, T. V., Candidate of Biological Sciences

"Microbiological Synthesis of Organic Acids From Petroleum Hydrocarbons"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 526-532

Abstract: The article considers the possibilities of using aliphatic, alicyclic and aromatic petroleum hydrocarbons as the raw material for the production of organic acids with microorganisms. Routes for the degradation of n-alkanes by microorganisms are analyzed, and data on the biosynthesis of acids on this substrate with microorganisms are discussed. There are promising prospects for the use of n-alkanes for the microbiological synthesis of various types of organic acids -- saturated and unsaturated fatty acids, aliphatic dicarboxylic acids, hydroxy, keto and aldo acids, acids of the tricarboxylic acid cycle. Conditions which assure the supersynthesis of organic acids with microorganisms are considered, as well as conditions for the directed microbiological synthesis of citric acid, isocitric acid, fumaric acid, alpha-ketoglutaric acid and malic acid. Prospects are also considered for the synthesis of various cyclic acids by the microbiological transformation of acyclic and aromatic hydrocarbons.

1/1

USSR

UDC: 535.853.36

BLOKH, A. A., GOLYANDIN, N. S., KOSSOVA, N. F., and LOZINSKAYA, S. B.

"The ISK-24 Infrared Spectrophotometer"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 4, Apr 73, pp 32-34

Abstract: The authors study the new ISK-24 two beam spectrophotometer developed by LOMO (Leningrad Optico-Mechanical Society). The unit is designed for obtaining the absorption spectra of various substances in the 400-4000 cm^{-1} range under conditions of normal and polarized radiation. The unit has high technical characteristics: resolution of 0.5 cm^{-1} in the 1000 cm^{-1} range, wave number scale accuracy of ± 1 cm^{-1}, and a photometric accuracy of ± 1 percent. The unit is equipped with polarizer gratings developed by the F. M. Gerasimov Laboratory of the State Institute of Optics imeni S. I. Vavilov. The spectrophotometer is based on the null principle.

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1/2 026 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--INTERFEROMETRIC OBSERVATIONS OF THE THIN FILAMENTARY NEBULA NGC 6888 -U-

AUTHOR--LOZINSKAYA, T.A.

COUNTRY OF INFO--USSR

SOURCE--ASTRON. ZH. 1970, 47(1), 122-8

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, PHYSICS

TOPIC TAGS--NEBULA, INTERFEROMETER, IMAGE CONVERTER, STAR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1733 STEP NO--UR/0033/70/047/001/0122/0128

CIRC ACCESSION NO--AP0115562

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OBSERVATIONS OF NGC 6888, WITH A HIGH CONTRAST FABRY PEROT ETALON AND AN IMAGE CONVERTER, IN THE H SUBALPHA, H SUBBETA, AND N II LINES, REVEALS A SPLITTING OF THE SPECTRAL LINE PROFILE INTO SEVERAL COMPONENTS WITH A HALF WIDTH OF SIMILAR TO 30-40 KM-SEC, ASCRIBED TO GALACTIC BACKGROUND EMISSION AND APPROACHING AND RECEDING PARTS OF THE EXPANDING NEBULA. IN ADDN., A WEAK COMPONENT WITH A FLAT TOP OF SIMILAR TO 200 KM-SEC WAS OBSD. THE EXPANSION VELOCITY IS 55-110 KM-SEC AND THE TEMP. IS 19,000 PLUS OR MINUS 4000DEGREESK. THE DATA AGREE WELL WITH THE PROPOSED MECHANISM OF NEBULA FORMATION DUE TO INJECTION OF MATTER FROM THE WOLF RAYET STAR HD 192 163. FACILITY: GOS. ASTRON. INST. IM. SHTERNBERGA, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 616.988.75-085.339:576.858.75.095.383:616.988.75-035.2]-036.1

GAYLONSKAYA, I. N., KOPELEV, M. F., BUSUYEK, G. P., KUZNETSOV, V. P., and LOZINSKAYA, T. M., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Clinical Course of Influenza Treated With Interferon and Symptomatic Agents"

Moscow, Klinicheskaya Meditsina, No 2, 1973, pp 117-119

Abstract: The clinical course of influenza was much milder in patients treated solely with concentrated leukocytic interferon than in a matched group treated with conventional symptomatic drugs. Interferon treatment was administered 4 days: 2 drops (= 200 units) instilled in each nostril the first and second days of the disease every other hour and the same amount on the third and fourth days 5 to 6 times a day. Total interferon used was 4 to 6 ml. In these patients, the symptoms of intoxication were less pronounced than in controls and they lasted 2.4 days compared to 3.8 days while chills persisted 1.8 and 2.6 days, respectively. Body temperature returned to normal on day 2 or 3 of the disease compared to day 4 or 5 in those treated with symptomatic drugs. The ECG changes too were less pronounced in the patients given interferon. Interferon did not produce side effects or complications nor did it prevent the formation of type-specific antibodies.
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USSR

UDC 911.3:616.9(477)

KRIVOSHEVN, Yu. S., VASILYEVA, V. I., LOZINSKAYA, T. N., RYBAKOVA, I. I., BAKULINA, E. V., and BORSHCHOVA, G. N.

"Complement-Fixing Antibodies in Healthy Human Serum to Mycoplasma -- Pneumonia and Acute Respiratory Infections"

Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.196)

Translation: Serological investigation of 868 healthy humans in various rayons of Krymskaya Oblast showed that the agent of mycoplasma pneumonia infected 13.3% of the city dwellers studied, 39.2% of country dwellers in the northern part of the Crimea, and 19.7% in the southern part. The influenza virus Hong Kong A_2 more frequently infected city dwellers, and influenza virus B -- rural inhabitants. In the partially isolated collective, formed a year prior to the study, the prevailing mycoplasma agents were pneumonia, Singapore A_2 influenza, type II adenovirus, and respiratory-syncytial virus. Two years prior to the research, Hong Kong A_2 influenza virus and type III parainfluenza predominated. Adults had significantly higher numbers of infections from mycoplasma -- pneumonia, Hong Kong A_2

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USSR

KRIVOSHEVN, Yu. S., et al., Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.196)

influenza type and B influenza; and children -- more infection with para-influenza viruses type I and II.

2/2

Acc. Nr: A70046561 Abstracting Service: INTERNAT. AEROSPACE ABST. Ref. Code: 5-70 21R0030

A70-25128 # New Soviet cameras for photographic observation of artificial celestial bodies (Novye Sovetskie kamery dlia fotonabliudenii iskusstvennykh nebesnykh tel). A. G. Masevich and A. M. Lozinskii. *Akademiia Nauk SSSR, Vestnik*, vol. 40, Feb. 1970, p. 38-44. In Russian.

Discussion of three photographic cameras developed in the USSR for satellite observations and satellite geodesy. Particular attention is given to the AFU-75 camera employed at the Riga, Uzhgorod, Zvenigorod, and Yuzhno-Sakhalinsk stations. The AFU-75 has a lens diameter of 210 mm, and a focal length of 736 mm. The Uran-16 seven-element lens has a d/f ratio of 1:3.5. The field is 10 by 14 deg. The film width is 190 mm. The camera is mounted on a special equatorial platform and employes a guiding telescope. It is suitable for photographing satellites of stellar magnitudes from 3 to 10. Another camera developed and employed at the Riga University Observatory is the FAS camera designed for photographing active satellites. Its mounting and principles of operation are the same as those of the AFU-75. Its spherical mirror lens is 300 mm in diameter, the focal length 480 mm, d/f is 1:1.9,

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the film (or plate) 6.5 by 9 cm, the field 7 by 10 deg. The FAS camera has been installed late in 1969 at the stations at Riga, Zvenigorov, Uzhgorod, Pulkovo, and Yuzhno-Sakhalinsk. The largest of the cameras described, the VAU, was developed in Moscow for satellite tracking. It employs the Astrodar lens (developed in 1958). The primary mirror is 1070 mm in diameter, the focal length 700 mm, the film width 70 mm, the picture format 60 by 360 mm. The camera employs a triaxial parallactic mounting that makes it possible to obtain reference stars in the form of points in direct proximity of the satellite image.

V.P.

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USSR

UDC 8.74

BRANOVITSKIY, V. I., DOVGYALLO, A. M., LOZINSKIY, L. S.

"Some Forms of the Man-Computer Dialog"

V sb. Mat. i inform. probl. prognozir. i upr. naukoy (Mathematical and Information Problems of Forecasting and Control of Science -- collection of works), Kiev, 1971, pp 184-194 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V623)

Translation: A study was made of the following problems: the interaction of man with a computer and his role in the joint solution of a problem by them: a dialogue as a form of such interaction, basic characteristics and forms of dialogues; methods of organizing a dialog controlled by a computer and its role in the development of problem-solving algorithms.

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USSR

UDC 681.06.51

LOZINSKIY, L. S.

"Formation of Information Files"

1-YA Nauchno-tekhn. Konferentsiya Spets. Konstrukt. Byuro Mat. Mashin i Sistem [First Scientific and Technical Conference of the Special Design Bureau for Mathematical Machines and Systems -- Collection of Works], Kiev, 1970, pp 78-91 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V645 by T. Sidorova).

Translation: The problem of rational formation of information files based on the requirements of the complex of problems solved in an automatic control system is studied.

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USSR

UDC: 539.4

BUKATIN, O. V., KATIKHIN, V. D., LOZINSKIY, M. G., PASHKOV, P. O., TANANOV, A. I.

"Microstructural Study of Fatigue Destruction of a Multilayered Composition Made by Using High-Velocity Deformation"

V sb. Teoriya i prakt. vysokoskorost. deformatsii metal. materialov (Theory and Practice of High-Velocity Deformation of Metallic Materials--collection of works), Moscow, 1971, pp 22-23 (from RZh-Mekhanika, No 5, May 72, Abstract No 5V1036)

Translation: Methods of high-temperature metallography are used to study plastic deformation and fracture under conditions of a bending load on a sandwich panel made up of EI435 + 42Kh2GSNM + EI435. The experiments were done on the IMASh-10-68 machine in the temperature range from 20-800°C. An investigation was made of the effect of longitudinal and transverse bending loads on the rate and nature of fatigue crack propagation. It is shown that destruction of a layer of high-strength steel takes place with insignificant development of the deformation microrelief. The microrelief of the cladding is characterized by the formation of nonuniform and interrupted slip bands.

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USSR

UDC 539.3:669.245

LOZINSKIY, M. G. and ZINCHENKO, V. M.

"Investigation of the Deformation Capacity of Nickel and Its Solid Solutions With Chrome and Titanium"

Moscow, Mashinovedeniye, No 3, 1972, pp 76-79

Abstract: A quantitative evaluation has been made of the influence of the separate and combined alloying of nickel by chrome and titanium on the basis of grain boundaries in specimens tested at 400 and 800°. At 400° intergrain deformation decreases in a nickel-titanium alloy; for example, at a total elongation of 5% it was 0.16%, whereas for nickel it was 0.49%, while for nichrome it was practically absent. At 800°, intergrain deformation in specimens of binary alloys is 1.5-2 times greater than in nickel, whereas for specimens of nichrome-titanium alloy it is 2 times less. The indicated changes in the intergrain component of total deformation are explained by an increase in the tangency of binary alloys of nickel with chrome and titanium for brittle destruction, and by a decrease of this property in an alloy which constitutes a solid solution of titanium and chrome in nickel. 2 figures. 8 references.

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USSR

UDC 539.4

LOZINSKIY, M. G., LYUTTSAU, V. G., TANANOV, A. I.

"Details of the Structure of 'White Phases' Formed in the Process of High-Speed Collision of Metals"

V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 88-92 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1466)

Translation: The microstructural characteristics of the structure of a two-layer steel (St 3 + Kh18N10T) plated with the aid of pulse loading are considered. The results of metallographic, x-ray microscopic, and micro-x-ray spectral analysis of the "white phases" formed during high-speed collision of metals are presented. It is shown that the combination of metallographic analysis with x-ray methods makes it possible to obtain new data on the structural characteristics of metals coated with the aid of pulse loading. Authors abstract.

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USSR

UDC 669:620.171/178.7

LOZINSKIY, M. G., Professor, Doctor of Technical Sciences, Editor in Chief

Academy of Sciences USSR; State Scientific Research Institute of Machinery; Moscow Institute of Steels and Alloys; Institute of Metallurgy imeni A. A. Baykov

V ysokoskorostnaya deformatsiya, voprosy povedeniya metallicheskikh materialov pri impul'snom nagruzhenii (High-Speed Deformation. Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses), Moscow, "Nauka" Press, 1971, 128 pp

Translation of Foreward: Among today's most efficient means for processing metallic materials, high-speed forming appears to be gaining increasing importance. Industrial sectors have successfully been using explosive energy and other methods of producing high-pressure shock waves for forming, compaction of powders, welding, and cutting of metals. However, the status of high-speed deformation mechanics as well as the level of research in general and physical metallurgy are well behind practical demands and are inadequate for effective utilization (by industry) of methods of forming metallic materials under pulsed application of stress. In this connection the First Scientific Research Conference on the Theory and Practice of High-Speed Forming of Metallic Materials, was convened. The conference was sponsored by the state Scientific Research Institute of Machinery jointly with the Moscow

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USSR

LOZINSKIY, M. G., High-Speed Deformation, Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses, Moscow, "Nauka" Press, 1971

Institute of Steel and Alloys and Institute of Metallurgy imeni A. A. Baykov, The Department of General Metallurgy (Volgograd Polytechnic Institute) headed by P. O. Pashkov, Professor, Doctor of Technical Sciences and Honored Scientist and Technologist of RSFSR actively participated in the arrangements. The present collection offers brief presentations of some of the principal reports read at the conferences. The subjects of the articles comprising the collection reflect two major aspects (mechanical and physical) of research papers in the area of theory and practice of high-speed forming. It is quite clear that further improvements in methods of shock-wave applications are feasible only when conducted in terms of physics of solids to reveal the inner mechanism deformation of the microvolumes of materials as well as from the viewpoint of mechanics of failure to make possible construction of mechanical models describing the change of the material as a whole. Some articles offer rather interesting data on the structure of metals and alloys subjected to pulsed loading as well as on the mechanism of high-speed forming, thereby revealing features of slip, twinning, and shaping of dislocation structures under high-speed loading. Papers aimed at the formulation of concepts of high-speed forming from the viewpoint of mechanics show a relationship between the dynamic behavior of dislocations and the properties of metals, reveal the effect of deformation rates on yield point and a relationship

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USSR

LOZINSKIY, M. G., High-Speed Deformation. Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses, Moscow, "Nauka" Press, 1971

between the structure of a shock wave and the tendency of a material to failure. The resolutions adopted at the conference stress the expediency of research coordination in order to formulate and resolve high-speed forming problems which cannot be realized by other known means. The resolutions also pointed to the need for more elaborate equipment and methods of testing specimens and parts under dynamic loading conditions. The extensive discussion of the research results reflected in the articles of this collection will undoubtedly contribute to determining the specific features of the mechanism and nature of high-speed deformation of metals and alloys as well as to greater adaptation of new technological metal treatment processes based on the use of pulsed loading.

Translation of TABLE OF CONTENTS:

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LOZINSKIY, M. G., High-Speed Deformation. Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses, Moscow. "Nauka" Press. 1971

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LOZINSKIY, M. G., High-Speed Deformation. Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses, Moscow, "nauka" Press, 1971

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Lozinskiy, M. G., High-Speed Deformation. Behavioral Aspects of Metallic Materials During Pulsed Application of Stresses, Moscow, "Nauka" PRess, 1971

References follow each individual article

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USSR

LOZINSKIY, M. G., FERENETS, V. YA. UDC 539.4:536.453

"Application of High Temperature Metallography Methods in Studying the Mechanism of Plastic Deformation of Metallic Materials Under Heating"

V sb. Novyye napravleniya razvitiya vysokotemperatur. metallogr. (New Trends in the Development of High Temperature Metallography -- Collection of Works), Moscow, "Mashinostroyeniye", 1971, pp 85-95 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12V1552)

Translation: The microstructure was studied to determine the plastic deformation metal of heat-resistant austenite Kh12N22T3MR steel under stretching at a constant rate of 3% for 1 hr at 700°. A quantitative evaluation was made of the intergranular deformation in the Kh12N22T3MR steel samples tested. It was shown that high temperature working considerably raises the resistance deformation along the grain boundaries as compared with treatment by other methods. The microstructure was analyzed and a quantitative estimate was made of the contribution of the boundaries to the total lengthening of gold samples in the temperature range from room temperature to 800° under stretching at constant

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USSR

LOZINSKIY, M. G., FERENETS, V. YA., Novyye napravleniya razvitiya vysokotemperatur. metallogr., Moscow, "Mashinostroyeniye", 1971, pp 85-95

velocity and changes in the strength properties were also evaluated. The studies showed that there occurs a sharp weakening of the grain boundaries of gold at 200-300°; with a further rise in temperature the degree of weakening of the grain boundaries is practically unchanged. Authors' abstract.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002201820015-0"

USSR

UDC 539.4.015

BERKMAN, I. V., LEVIN, A. YE., and LOZINSKIY, M. G., Leningrad, Moscow

"On the Irregularity of Plastic Deformation of a Dispersion-Hardening Nickel-Base Alloy"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 72, pp 39-46

Abstract: The phenomenon of intermittent deformation under tension of a complexely alloyed, heat-resisting, and dispersion-hardening nickel-base alloy (16.1% Cr, 8.8% Mo, 4.0% W, 1.4% Ti, 1.4% Al, 0.4% Fe, the rest Ni) was investigated by methods of high-temperature metallography using a modernized IMASh-5S-65 unit. The lower and upper temperature limits -- 450°C and 780°C -- were determined for the occurrence of intermittent deformation. It was found that the deformation degree, beginning with which the irregular distortion of the alloy starts, increases with rising temperature and decreasing speed. The average value of the stress jump also changes with temperature and deformation rate, showing a clearly expressed maximum at 650°C. The average time between neighboring jump changes analogously. A hypothetical explanation of the mechanism of the intermittent deformation is suggested. It is based on the complex blocking of split dislocations by Suzuki clouds developing on packing defects and by dispersion particles of the hardening

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BERKMAN, I. V., et al., Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 72, pp 39-46

phase. The phenomenon of intermittent deformation is directly related to displacing intergranular processes. Four illustrations, six bibliographic references.

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USSR

UDC 632.95

LOZINSKIY, M. O., PROTOPOPOVA, G. V., DZYUBAN, A. D., REYDALOVA, L. I., KUKOTA, S. N., PEL'KOS, P. S.

"Pesticidal Properties of α-arylhydrazono-β-oxocarboethoxybutyryl-λ-triphenyl (or trimethylol)-phosphonium Bromides"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, vyp. 4, pp 33-34 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N468)

Translation: The synthesis and insecticidal properties of compounds with the following formula are described: $[R_3PCH_2COC(=NNHC_6H_4R')COOC_2H_5]Br(I)$ (R = Ph, CH_2OH; R' = H, Cl, alkyl). A solution of 0.02 moles of Ph_3P in 10 ml of C_6H_6 is added to a solution of 0.02 moles of $BrCH_2COC(COOC_2H_5)$ $(=NNHC_6H_4R')$ in 10-15 ml of C_6H_6, it is mixed at ~20° for 10 to 12 hours, the precipitate is separated, washed with C_6H_6 and crystallized from the mixture of C_6H_6 and acetone to obtain I (R', the melting point in °C are presented) R = Ph: H(Ia), 144; π-Me (Ib), 143; π-OMe (Ic), 146; π-Cl (Id), 167-8; π-COOMe (Ie), 177-8; π-NO_2, 135-6; 2-OMe-5-NC_2, 146. By a reaction in dimethylformamide, I (R = CH_2OH) is obtained (R' and the melting point in °C are presented): π-CL, 141-2; 2-OMe-5-NO_2, 140. The Ia-e in a concentration of 0.1% have 60 to 100% activity with respect to greenbug (Toxoptera graminum). The I has low activity with respect to red spider mites.

USSR

UDC: 547.558.1+547.241

LOZINSKIY, M. O., KUKOTA, S. N., and PEL'KIS, P. S., Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"Research in the Halogen-Substituted Carboxylic Acid Series. III. Synthesis of Phosphorans Which Contain Arylhydrazone Groups"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2893-2896

Abstract: The authors describe synthesis and properties of a number of α-arylhydrazono-β-oxocarboethoxybutyryl-γ-triphenyl/and trioxymethyl/-phosphonium bromides. The initial reagents were arylhydrazones of ethyl ether of bromoacetylglyoxylic acid, triphenylphosphine, and trioxymethylphosphine. The resultant products are fine yellow crystals, partly with a metallic luster, which are readily soluble in lower alcohols and dimethylformamide, and poorly soluble in benzene, ether and acetone. When salts (I-VI) are reacted in an aqueous solution of soda at 40-55°C for 6-8 hours, or with triethylamine in tetrahydrofuran, the corresponding phosphorans are produced in the form of yellow crystals which dissolve in many organic solvents. These phosphorans react with carbonyl compounds in a number of electrophilic agents. Compounds (VIII-X) are spermacides.

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1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--AN ESTIMATE FOR THE ERROR OF AN APPROXIMATE SOLUTION FOR SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS GIVEN IN NORMAL FORM. II -U-
AUTHOR--LOZINSKIY, S.M.

COUNTRY OF INFO--USSR

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PART I OF THIS PAPER WAS PUBLISHED IN THIS JOURNAL IN 1969, NO 19. PART II CONTAINS SOME RECOMMENDATIONS ON THE USE OF THEOREMS 1 AND 2 OF PART I, EXAMPLES AND COM;LEMENTS TO PART I (ABOUT HYPERMATRICES AND THEIR NORMS AND ABOUT SOME NUMERICAL METHODS TO ESTIMATE QUANTITIES ENTERING IN THE FORMULATION OF THEOREMS 1 AND 2.