

USSR

YERMAKOV, G. A.; NADGORNYY, E. M. (Institute of the Physics of Solids of the USSR Academy of Sciences, Chernogolovka)

"Dislocation Mobility in Gamma-Irradiated Crystals of Sodium Chloride. High-Rate Region"

Leningrad, Fizika Tverdogo Tela; February, 1971; pp 513-9

ABSTRACT: A study was made of the dependence of the rate of screw dislocation on the shear stress τ and the temperature in the interval $T = 77^\circ - 300^\circ K$ in the high-rate region $v > 10^3$ cm/sec in gamma-irradiated crystals of sodium chloride, for which $v(\tau)$ was studied earlier in the low-rate region. It was shown that movement in high- and low-rate regions is substantially different in alkali-haloid crystals (different form of $v(\tau)$, different with respect to the sign of the function $v(\tau)$, a different character of the effect of the radiation point defects). The conclusion is drawn that the movement of the

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YERMAKOV, G. A., et al., Fizika Tverdogo Tela, Feb 71, pp 513-519

dislocations for $v > 10^3$ cm/sec in these crystals is quasi-viscous. The value of the effective viscosity B depends on the radiation dose and the temperature ($B = 0.15-0.50$ millipièze [1 pièze is equal to a pressure of 1 cN on an area of 1 m^2]). The temperature function $B(T)$ indicates a possible role of phonon processes in dislocation retardation in the range of rates studied. The occurrence of a delay in the movement of dislocations having a thermoactivation character and connected with the diffusion strengthening of dislocations in this range of v , t , and T was investigated.

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1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MEASUREMENT OF ABSORBED ENERGY OF BREMSSTRAHLUNG AND BEAMS OF FAST
ELECTRONES WITH THE AID OF GRAPHITE CALORIMETER -U-
AUTHOR-(02)-YERMAKOV, I.A., SINITSYNA, A.P.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLEGIYA, 1970, VOL 15, NR 3, PP 65-71
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CALORIMETER, BREMSSTRAHLUNG, ELECTRON CAPTURE, ELECTRON BEAM,
IONIZATION CHAMBER, BETATRON, GRAPHITE / (U)B4ETATRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/1473 STEP NO--UR/0241/70/015/003/0065/0071
CIRC ACCESSION NO--AP0101559
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0101559

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHROS DESCRIBE THE DESIGN OF A CALORIMETER AND THE RESULTS OF MEASUREMENTS OF THE ABSORBED ENERGY FROM BEAMS OF FAST ELECTRONES AND BREMSSTRAHLUNG FROM BETATRON B-4E. THE PAPER PRESENTS THE RESULTS OF CALIBRATION OF THE IONIZATION CHAMBER IN UNITS OF ABSORBED DOSE.

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UDC 661.1.542.65:539.23:539.24

DYMOCHENKO, N. P., SHISHLYANNIKOVA, L. M., YERMAKOV, N. I., and URAZALIYEV, U. S., Moscow State Pedagogical Institute imeni V. I. Lenin and Moscow Oblast Pedagogical Institute imeni M. K. Krupskaya

"Electron-Optical and X-ray Diffractometric Study of St-50-1 Sital Substrate Structure"

Moscow, Neorganicheskiye Materialy, Vol 9, No 10, Oct 73, pp 1794-1797

Abstract: Electronography, electron microscopy, and x-ray diffractography were used to study phase composition and substructure of the surface layers in ST-50-1 sital substrates. It was found that sital films deposited on unheated substrate bases were quite different from those deposited on heated bases. For crystalline TiO_2 (rutile), a small size of coherent

scattering regions and mean-square microdeformations were characteristics in the sital. In relation of crystallographic direction, characteristic for crystalline TiO_2 in sital, anisotropy of the sizes of coherent scattering regions and magnitude of mean-square micro-deformations are pronounced. It was suggested that in the formation of thin films, the phase and micro-structural heterogeneities of the sital surface layers are conducive to electrical defects and lead to a nonuniform distribution of electrical defects in the film condensates. Two figures, nine bibliographic references.

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UDC 666.1:542.65:539.23:543.422.8

DYMCHENKO, N. P., SHISHLYANNIKOVA, L. M., YERMAKOV, N. I., URAZALIYEV, U. S.
ZAMYSLOV, YU. V., and MOCHALOV, A. I., Moscow State Pedagogical Institute
imeni V.I. Lenin and Moscow Oblast Pedagogical Institute imeni N. K. Krupskaya

"X-Ray Diffractometric Study of Grade St-50-1 Sital Substrate Phase
Composition"

Moscow, Neorganicheskiye Materialy, Vol 9, No 10, Oct 73, pp 1791-1793

Abstract: Three batches of grade ST-50-1 sital substrates from industrial production were investigated as to reproducibility of phase composition from point to point on one substrate for each of the three batches, then on reproducibility of phase composition from substrate to substrate in the first, second, and third batches, respectively. Sital ST-50-1 is an oxide composition containing (in %): 60 SiO_2 , 13 Al_2O_3 , 9.5 MgO , 7.5 CaO , and 9.0 TiO_2 . Careful analysis of the x-ray diffractograms revealed that, in addition to an amorphous phase, the ST-50-1 sital substrate has two other phases: TiO_2 in the form of rutile and MgSiO_3 (clinoenstatite). Reproducibility from substrate to substrate in a batch and from batch to batch was good. Three-hour heat treatments at 200, 400, and 600°C had no effect on sital substrate composition. One figure, one table, three bibliographic references.

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1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INVESTIGATION OF REPRODUCTION OF VIRUS OF HEMORRHAGIC
NEPHROSONEPHRITIS, HEMORRHAGIC FEVER WITH RENAL SYNDROME BY MEANS OF THE
AUTHOR--(04)--NOSKOV, F.S., GAVRILYUK, B.K., YERMAKOV, N.V., AVDEYENKO, M.M.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 225-231
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HEMORRHAGIC FEVER, FLUORESCENT ANTIBODY, TISSUE CULTURE, BLOOD
SERUM, GAMMA GLOBULIN, SYNDROME, NEPHRITIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0739 STEP NO--UR/0402/70/000/002/0225/0231
CIRC ACCESSION NO--AP0108945
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108945

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DYNAMICS OF REPRODUCTION OF VIRUS OF HEMORRHAGIC NEPHROSONEPHRITIS; HEMORRHAGIC FEVER WITH RENAL SYNDROME (HNN-HFRS) IN HUMAN EMBRYO KIDNEY CELL CULTURES WAS STUDIED BY MEANS OF INDIRECT AND DIRECT FLUORESCENT ANTIBODY TECHNIQUE WITH COUNTERSTAINING OF THE BACKGROUND. SPECIFIC FLUORESCENT GAMMA GLOBULINS AGAINST HNN-HFRS VIRUS HAVE BEEN PREPARED FOR THE FIRST TIME FROM HYPERIMMUNE RABBIT SERA; THEY ARE HIGHLY SPECIFIC, HAVE GOOD STAINING ACTIVITY AND MAY BE USED FOR LABORATORY DIAGNOSIS OF HNN-HFRS.

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UDC 619:616.981.42+616.982.2-084:636.22/.28

~~YERMAKOV, P. I.~~, ALEKSANDROV, N. A., AFANAS'YEV, V. M., ALEKSEYEV, K. K., and
IRONNIKOV, V. D., Saratov Oblast Veterinary Department

"Organization of Measures to Control Brucellosis and Tuberculosis in Cattle"

Moscow, Veterinariya, No 1, 1972, pp 46-48

Abstract: The incidence of tuberculosis and brucellosis among cattle and the incidence of brucellosis among sheep in Saratovskaya Oblast (a region of south-eastern Russia on both sides of the lower Volga) built up by 1964 to the point where almost one-quarter of all the animals were suffering from chronic infection. Following a detailed study of the situation on each affected farm, comprehensive plans were drawn up to halt the spread of the diseases. These plans included regular examination of the animals for brucellosis and tuberculosis, isolation of young healthy animals to create new herds, compulsory pasteurization of milk, disinfection measures, and plowing up and liming soils on infected farms. Conference and visiting experts were organized to propagandize modern control measures. As a result of these steps, the number of affected localities was sharply reduced within five years (fourfold and twofold in the case of brucellosis and tuberculosis, respectively). The infection rate of both diseases dropped from about 2.3 to 1.1%. Efforts are now under way to eradicate these and other chronic diseases of cattle.

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GARDZIYENKA, L. M., YERMAKOW, P. Z. ✓

"General Annual Meeting of the Academy of Sciences of the Belorussian SSR"

Minsk, Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970, pp 113-116

Abstract: The Secretary of the Presidium of the Academy, A. S. MAKHNACH, presented a report on the realization of fundamental research in mathematics, nuclear physics and technology. The development of scientific methods in all Belorussian establishments, in metallurgy and plastics, and the use of gases to cool the nuclear reactors, are just a few of Belorussian accomplishments. Geological, stratigraphical, and biological resources of Belorussia were technologically studied and developed. The results of scientific progress is contained in more than 2000 articles by the members of the Academy. Textiles and machine and instrument making have been augmented by development of automatization.

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GARDZIYENKA, L. M., et al, Vestsi Akademii Navuk Belaruskay SSR,
No 3, 1970, pp 113-116

There were 7,996 people working in the various departments of the Academy of Sciences of BSSR as of February 1, 1970; of these, 107 were doctors of science and 814, candidates. The aspirants have increased by 104.4%. In conclusion, the Secretary pointed to immense work ahead in solving many problems, perfecting the structure of educational institutions, raising the level of scientific research, etc.

Academicians A. N. SEMCHANKA, M. A. DAROZHUKIN, B. V. YERAF-
YEYEW, P. I. RAGAVOY, M. V. TURBIN, YA. R. KANAVALAW, I. S. KRAW-
CHANKA, M. S. KAZLOW, G. V. BAGAMOLAW, M. V. SMOL'SKI; and Corres-
ponding Members K. P. BUSLAW, V. M. TREYER, AND L. V. VALADZ'KO
passed the judgment on the reports.

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CSO: 1841-W

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UDC: 517.8

VERMAKOV S. M.

"The Monte Carlo Method and Associated Problems"

Moscow, "Nauka," 1971, p 2

Translation of Annotation: The first three chapters contain basic information on the theory of probability, the most widely used methods for modeling random quantities with specified distribution laws, and the application of the Monte Carlo method for simulating real phenomena. The fourth chapter is devoted to methods of computing Lebesgue integrals according to the probability. On the basis of this chapter, a further examination is made of the problem of the approximate mean values of random functions, and the connection between this problem and that of planning regression experiments is discussed. The sixth chapter is devoted to Markov chains and the problems associated with them. The final chapter deals with several questions connected with the theory of numbers. Fourteen pages, bibliography of 195 titles.

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YERMAKOV, S. M.

"The Monte-Carlo Method and Related Problems"

Metod Monte-Karlo i Smezhnye Voprosy [English Version Above], Moscow, Nauka Press, 1971, 327 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V185 K by the author).

Translation: The first three chapters contain basic information from the theory of probabilities, the most widespread methods of modeling random quantities with fixed distributions and applications of the Monte-Carlo method for imitation of actual phenomena. The fourth chapter is dedicated to methods of calculation of Lebesgue-type integrals using a probability measure. Based on this chapter, the problem of approximation of the mean values of random functions is further analyzed, and the relationship of this problem to problems of planning of regression experiments is discussed. The sixth chapter concerns Markov chains and related problems. The final chapter contains certain problems related to the theory of numbers. 195 Biblio Refs.

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UDC: 519.281

YERMAKOV, S. M.

"On Optimum Unbiased Plans of Regression Experiments"

Tr. mat. in-ta AN SSSR (Works of the Mathematics Institute, Academy of Sciences of the USSR), 1970, 111, pp 252-257 (from RZh-Kibernetika, No 7, Jul 71, Abstract No TV319)

Translation: Let (Y, B, μ) be a probabilistic space, where B is a σ -algebra of subsets of Y , and μ is a probabilistic measure. The term $\zeta(x, y)$ denotes a measurable random function, where x is a parameter from some set of parameters X , on which the σ -algebra A is also defined, and σ is a finite measure λ . The notation $P = (x_1, x_2, \dots, x_N) \in X^N$ is introduced, where X^N is the Cartesian product of N replicas of X , A^N is a σ -algebra generated by subsets which are Cartesian products of the sets by X .

Further, let ζ_i be independent realizations of the random function ζ when $x = x_i$, $\zeta_i = \zeta(x_i, y)$ ($i = 1, \dots, N$) and $\zeta(x, y) = f(x) + e(x, y)$, where $f(x)$ is the mathematical expectation of $\zeta(x, y)$ for fixed x . The method of construction of the function $L(x, \zeta_1, \dots, \zeta_N, x_1, \dots, x_N) = (x, \zeta, P)$ is predetermined with

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YERMAKOV, S. M., Tr. mat. in-ta AN SSSR, 1970, 111, pp 252-257

respect to values of x_i and ζ_i ($i = 1, \dots, N$), and consideration is given to the problem of selecting a P such that $L(x, \zeta, P)$ approaches $f(x)$ by a method which is best in some sense. The probabilistic measure $u(P)$ is then defined on (X^N, A^N) (continuous plan of experiment), and it is assumed that P is realized in accordance with $u(P)$. On the assumption that $f(x)$ and $EL(x, \zeta, P)$ belong to a linear normalized function space, the problem of optimum selection of the function $u(P) = \hat{u}(P)$ from some set U of functions $u(P)$ is formulated. The existence of functions \hat{u} which satisfy the conditions of the problem is then proved with a number of specific assumptions. The concept of "unbiasedness" of a plan for a regression experiment is presented. It is shown that unbiased plans enable accounting in a natural way not only for the effect of $\varepsilon(x, y)$, but also for the quality of the regression model. Several special formulations of the problem are considered. O. Yegorova.

USSR

UDC 621.318.85

OVCHINNIKOV, N.P., and YERMAKOV, V.G., Il'yanovsk Scientific Research, Planning and Technological Institute of Machine Building

"Photoelectric Alarm Unit"

USSR Authors' Certificate No 296168, Cl. H 01 h 47/24, filed 27 May 69, published 9 Apr 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika No 1, Jan 72, Abstract No 1A421P)

Translation: The proposed photoelectric alarm unit contains a photoresistor, resistor, and power source. To increase operating speed and reliability, it has in it a transistor, to whose collector load the photoresistor is connected in series, while a capacitor is connected in parallel to the above-mentioned collector circuit. 1 illustration.

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UDC: 538.4

USSR

YERMAKOV, V. I. and TARAFOV, I. Ye.

"Magnetohydrodynamic Ball Bearing"

Riga, Magnitnaya gidrodinamika, No 2, 1972, pp 117-122

Abstract: The theory of a magnetohydrodynamic ball bearing is considered in a situation in which the conducting liquid motion is stationary in a small gap between two eccentrically placed spheres, each considered to be ideally conductive and with a potential difference between them. The ball bearing is in an external uniform magnetic field. The outer sphere is fixed while the inner rotates with constant angular velocity. It is assumed that the difference between the radii of the spheres is small compared to the radii themselves such that the ratio of the difference to the radius can be neglected. Ordinary and magnetic Reynolds numbers are also assumed small, thus permitting inertial terms and induced magnetic fields to be ignored in the equations of motion. The theory of lubrication of the ball bearing by the conducting liquid is developed.

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YERMAKOV, V. I., MOISEYEV, G. I., SHERSHENEV, V. G., Moscow

"The Perturbed Motion of a Body Containing a Cylindrical Cavity with
Elastically Mounted Ribs"

Moscow, Mekhanika Tverdogo Tela No. 5, 1970, pp 65-73.

Abstract: Equations are concluded for the perturbed motion of a body with
a cylindrical cavity containing a fluid and elastically mounted ribs. The
method of conjugation is used to determine the hydrodynamic parameters
characterizing the force and momentum effects of the liquid filler and the
oscillating ribs on the motion of the body.

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1/2 045 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PERTURBED MOTION OF A BODY CONTAINING A CYLINDRICAL CAVITY WITH
RIBS --U--
AUTHOR--(03)--YERMAKOV, V.I., MOISEYEV, G.A., SHERSHNEV, V.G.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKhanika TVERDOGO TELA, MAR.--APR.
1970, P. 52-61
DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CYLINDRIC SHELL STRUCTURE, REINFORCED SHELL STRUCTURE, MOTION
EQUATION, VIBRATION ANALYSIS, FLUID DYNAMICS, BOUNDARY VALUE PROBLEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAme--2000/1282

STEP NO--UR/0484/70/000/000/0052/0061

CIRC ACCESSION NO--AP0124933

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 045

CIRC ACCESSION NO--AP0124933
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDY OF THE MOTION OF A BODY WITH A PARTIALLY FILLED CYLINDRICAL CAVITY EQUIPPED WITH DAMPING RIBS. THE PROBLEMS ARISING IN DETERMINING THE HYDRODYNAMIC CHARACTERISTICS OF THE LIQUID FILLING ARE SURMOUNTED IN THIS CASE BY EMPLOYING THE METHOD OF COUPLING PARTICULAR SOLUTIONS. A SOLUTION IS OBTAINED FOR THE BOUNDARY VALUE PROBLEM OF SMALL VIBRATIONS OF THE LIQUID FILLING, AND THE INERTIA TENSOR OF AN EQUIVALENT SOLID BODY IS CALCULATED.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--METHODS OF PROGRAMMATIC IRRADIATION OF MALIGNANT TUMORS IN MOBILE
TECHNIQUES OF TELEGAMNETHERAPY -U-
AUTHOR--(04)--YERMAKOV, V.I., VIDENSKIY, V.G., MARDYNSKIY, YU.S.,
GOLDOBENKO, G.V.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 5, PP 77-80
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GAMMA IRRADIATION, RADIATION BIOLOGIC EFFECT, TUMOR, MEDICAL
APPARATUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1961 STEP NO--UR/0241/70/015/005/0077/0080
CIRC ACCESSION NO--AP0120604
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 027

CIRC ACCESSION NO--AP0120604

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBLE WAYS OF OPTIMIZATION OF CONDITIONS OF IRRADIATION OF MALIGNANT TUMORS WITH MOBILE TECHNIQUES OF TELEGAMMATHERAPY INVOLVING THE USE OF A TRACING SYSTEM ARE DISCUSSED. THE ELABORATION OF SUCH A SYSTEM IS BASED ON THE USE OF THE EFFECT OF SEPARATE PARAMETERS (ROTATION, SOURCE RATE, SOURCE FOCUS DISTANCE, DIMENSIONS OF THE AXIAL FIELD) ON THE FORMATION OF THE DOSE FIELD. IT IS EXPECTED THAT SUCH A SYSTEM WOULD MAKE IT POSSIBLE TO ACHIEVE AN OPTIMAL RATIO BETWEEN THE DOSE IN THE TUMOR AND THE DOSE OF WHOLEBODY IRRADIATION OF THE PATIENT. FACILITY: INSTITUT MEDITSINSKOY RADIOLOGII AMN SSSR.

UNCLASSIFIED

1/3 010 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ISOTOPIC COMPOSITION OF CARBON IN NATURAL GASES NORTHERN WEST
SIBERIAN LOWLAND IN RELATION TO THEIR ORIGIN -U-
AUTHOR--(05)-YERMAKOV, V.I., LEBEDEV, V.S., NENCHENKO, N.N., ROVENSKAYA,
A.S., GRACHEV, A.V.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. SSSR 1970, 190(3), 683-6 (GEOCHEM)
DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, EARTH SCIENCES AND
OCEANOGRAPHY
TOPIC TAGS--NATURAL GAS, CARBON, ISOTOPE, RADIOCARBON DATING, GEOLOGI
SURVEY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0272

STEP NO--UR/0020/70/190/003/0683/0686

CIRC ACCESSION NO--AT0055068

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0055068
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A NEW NATURAL GAS PROVINCE, CONTG. RICH RESOURCES, WAS DISCOVERED RECENTLY IN THE NORTHERN PART OF WEST SIBERIAN LOWLAND. THE GAS DEPOSITS THERE ARE CONFINED TO THE CENOMANIAN STRATA FORMING AN UPPER PART OF THE POKURSK OILBEARING SERIES (APTIAN-ALBIAN-CENOMANIAN) WHICH CONSIST MOSTLY OF CONTINENTAL COASTAL MARINE FACIES. THE ISOTOPIC COMPN. OF C IN THESE GASES WAS DETD. AND COMPARED WITH THE PDB (THE CHICAGO STD. WITH PRIME12 C- PRIME13 C EQUALS 88.99PERCENT) TO DET. THE ORIGIN OF GAS IN THESE DEPOSITS. THE DEPOSITS OCCUPY A SPECIAL POSITION AMONG THE OTHER NATURAL GAS DEPOSITS OF YOUNG PLATFORMS, SITUATED IN MESOZOIC FORMATIONS, BEING MUCH RICHER IN PRIME12 C ISOTOPE (DELTA PRIME13 C FROM MINUS 5.83 TO MINUS 6.78PERCENT). E.G., THE GASES OF BUKHARA-KHIVA (TURANSK PLATFORM) HAVE DELTA PRIME13 C FROM MINUS 3.02 TO MINUS 3.82PERCENT AND GASES IN KRASNODAR DEPOSITS (SCYTHIAN PLATFORM) HAVE DELTA PRIME13 C VARYING FROM MINUS 3.76 TO MINUS 4.66PERCENT. THE DELTA PRIME13 C OF NORTHERN WEST SIBERIAN DEPOSITS IS VERY SIMILAR TO THAT OF THE MARSH GASES IN EUROPEAN PARTS OF THE U.S.S.R. WHERE IT VARIES FROM MINUS 5 TO MINUS 6.9PERCENT. THE DEGREE OF ORG. SUBSTANCE METAMORPHISM INDICATED THAT CONDITIONS OF GAS FORMATION IN NEW DEPOSITS WERE SIMILAR TO THE COALIFICATION IN APTIAN-ALBIAN-CENOMANIAN DEPOSITS AND TO GAS FORMATION IN RECENT MARSHES. THE MIGRATION OF GASES FROM DEPOSITS, UNDERLYING THE POKURSK SERIES, WAS EXCLUDED BY THE DATA ON ISOTOPIC COMPN. OF HYDROCARBON GASES OBTAINED DURING TESTING OF DEEP HORIZONS IN SOME OF THESE DEPOSITS (DELTA PRIME13 C FROM MINUS 3.85 TO MINUS 4.56PERCENT).

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0055068

ABSTRACT/EXTRACT--THE SOURCE OF GASES, DURING FORMATION OF THESE GAS
DEPOSITS, WAS THE COAL SUBSTANCE SCATTERED IN THE ROCKS OF THE
APTIAN-ALBIAN-CENOMANIAN COMPLEX.

UNCLASSIFIED

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UDC 8.74

YERMAKOV, V. N.

"Device for Inputting Answers to a Training Machine"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, vyp. 82, pp 105-115 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V630)

Translation: A survey of papers answering the problems of application of training machines with sample and constructed input of the answer is presented. A mathematical description is given of the sample, numerical and constructed methods of inputting the answers to the training machine. The bibliography has 13 entries.

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UDC 539.376+620.172.251.2

YERMAKOV, V. P., KUSNETSOV, A. P., Novosibirsk

"Short-Term Creep of AMg6 Alloy in Monaxial Extension"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 141-143.

Abstract: A method is studied for describing creep for the case when all three stages of deformation must be considered: the unstable, stable and early accelerated stages. The results of calculation are compared with the data of experimental studies of short-term creep of AMg6-M alloy with changing loads. It is assumed that the total creep deformation is a simple sum of the contributions of the independent mechanisms and that the deformation resulting from each mechanism can be represented by the formula $p_i =$

$= f_i(\sigma, T)t^{m_i}$, where σ is the stress, $T^\circ K$ is the test temperature, t is time and m_i is a constant.

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YERMAKOV, V. P. and RAVIKOVICH, A. I., Novosibirsk

"Creep of a Heat-Resistant Aluminum Alloy Under Conditions of a Complex Stressed State"

Novosibirsk, Prikladnoy mekhaniki i tekhnicheskoy fiziki, No 2, 1971, pp 83-86

Abstract: Results are given from experimental studies of the creep of the AK4-1, heat-resistant, aluminum alloy under constant and variable loading at 175°C and using a 100 hr. test duration. The theory of creep is verified using experimental data. This theory is based on the following hypotheses: variation in volume is elastic, the deviator of the rate of creep deformation is proportional to the stress deviator, and stress intensity, creep deformation, and their rates comprise a relationship which does not depend on stressed state type. Original article: seven formulas, three figures, and six bibliographic entries.

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UDC 620.9(47)

YERMAKOV, V. S.

"Plus Electrification"

Prom-st' Belorussii (Industry of Belorussia), 1970, No 4, pp 34-35 (from RZh-Teploenergetika, No 9, Sep 70, Abstract No 9G3)

Translation: In 1969, 689 billion kW-hrs of electric energy were produced in the Soviet Union. In the last decade alone, the installed power and production of electric energy have increased by a factor of 2.6. The high level of quality and economy of Soviet power engineering are evidenced by the continuous increase in the percentage of modern generators based on high and superhigh steam parameters, the reduction of specific fuel expenditures in the production of heat and electric energy, the growth in automation of basic technological processes, the reduction in specific capital outlays in the construction of electric power plants and networks, and the constant improvement in the structure of the fuel balance due to an increase in the percentage of more economic types of fuel -- natural gas and fuel oil. The period from 1959 to 1968 is characterized by a considerable introduction of power units (150-300 MW), whose total power at the end of 1968 was 35.7 million KW, amounting to 25% of the total installed power

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YERMAKOV, V. S., Prom-st' Belorussii (Industry of Belorussia), 1970, No 4, pp 34-35
(from RZh-Teploenergetika, No 9, Sep 70, Abstract No 9G3)

in the nation; the specific expenditure of fuel on the electric energy produced for this period decreased by 19.5%, reaching 384 grams per KW-hr. About 90% of the boiler units (with respect to productivity) have automatic regulation of the combustion process. In the Belorussian power system, the specific conventional fuel expenditure for production of 1 KW-hr of electric energy has decreased by a factor of 1.6 since 1959, and in 1969 reached 362 grams. During the next decade, readjustment of the fuel balance structure of the Republic will continue toward a considerable increase in the percentage of fuel oil and natural gas. Two illustrations. Yu. A. Mironova.

2/2

USSR

UDC 536.242:621.039.577

YERMAKOV, V. S., ZALUZHENYI, G. I., and YEDINOVICH, A. A., Minsk Branch, Power Institute imeni G. M. Krzhizhanovskiy

"Conjugate Problem of Heat Transfer and Optimum Control of the Unsteady-State Thermal Process of a Nuclear Reactor"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 19, No 2, Aug 79, pp 243-251

Abstract: A determination is made of the optimal control conditions of the thermal unsteady-state processes of a water-cooled water-moderated power reactor by means of a non-classical variational problem whose analysis is carried out with the use of the Pontryagin maximum principle. The considered system of conjugate equations incorporates the parabolic equation of heat conductivity and the hyperbolic equation of convective heat transfer. The system of input equations is complemented by two criterial functionals J_1 and J_2 , which describe the maximum heat removal and minimum temperature deviation of the coolant at the channel outlet in which a heterogeneous fuel element is placed axisymmetrically. The reactivity and coolant velocity are utilized as the control parameters. A computing algorithm is constructed and fuel element data of the VVER-1 water-cooled water-moderated reactor are assumed for the numerical estimation.

1/1

Analytical Chemistry

USSR

UDC: 632.95

YERMAKOV, V. V.

"Determination of Chlorine-containing Pesticides by Gas-Liquid Chromatography"

Probl. analit. khimii [Problems of Analytic Chemistry -- Collection of Works], Vol 2, Moscow, Nauka Press, 1972, pp 46-50 (Translated from Referativnyy Zhurnal Khimii, No 24(II), 1972, Abstract No 24N579, by T. A. Belyayeva)

Translation: Chlorine-containing hydrocarbons are analyzed on a gas chromatograph with an orbital electron capture detector, using a stainless steel column filled with silanized celite 545 (80-100 mesh) with 5% SE-30 methylsilicone. The He carrier gas rate was 10-32 ml/min. The dependence of detector sensitivity on compound structure is demonstrated. The results are presented as functions of elution time and minimum quantity of pesticides which can be determined. The GLC method was used to determine hexachlorane and DDT in meat, milk, fats and feeds.

JSSR

UDC 632.95

KARNAUKHOV, V. V., YERMAKOV, V. V.

"Analysis of Microamounts of Polychlorocamphene in the Eggs, Organs and Tissues of Hens and in Clover"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 74-76 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N440)

Translation: The gas chromatographic method of analyzing polychlorocamphene (I) using an electron capture detector is proposed. The radioactive source was tritium (130 mcuries), the cell voltage was 2-17 volt, the detector temperature was 200°, and the sensitivity was $2 \cdot 10^{-10}$ a/unit scale. The gas carrier was He (142 ml/min) with an evaporator temperature of 250°. A stainless steel column was filled with Me-silicone SE-30 (15%) in silanized celite 545 (80-100 mesh). The retention time was 1-6 minutes. The carefully ground weighed sample

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USSR

KARNAUKHOV, V. V., et al., Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesn. sredy, Tallin, 1971, pp 74-76

of the organ or tissue (10 grams) was mixed with 50-60 ml of hexane and held for 60 minutes at 20°. After filtration the extract was evaporated to dryness, and the dry residue was dissolved in 2 ml of hexane. Thirty ml of basic reagent was added (a mixture of 13 ml of distilled water, 50 kg of KOH and 17 ml of alcohol). The mixture was heated for 15 minutes in a water bath at 60° and the upper layer was separated. For analysis of the I in the fatty tissue, the extract was purified with concentrated H_2SO_4 . For analysis of I in hen eggs, a weighed sample of 5.0 grams was ground, 50 ml of acetone or MeCN was added, and the mixture was homogenized for 5 minutes. The weighed sample of clover plants (10.0 grams) was ground, mixed with 70-80 ml of octane or hexane and left for 12 hours at -20°. The sensitivity of the method was 0.1 mg/kg, and 0.2 nanograms of I were detected.

2/2

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USSR

UDC 632.95

YERMAKOV, V. V.

"Gas Chromatographic Analysis of DDT"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryaz-
neniya imi produktov bitaniya, kornov i vnesh. sredy (Works of the Second All-
Union Conference on the Investigation of Pesticide Residues and Preventive
Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp
57-60 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N434)

Translation: The analyses were run on a chromatograph with an electron capture detector and a helium gas carrier. The chromatographic analysis of p, p' -DDT in a stainless steel column filled with a mixture of 3% alkylnitrylsiloxane XE-60 and 0.3% epikot 1001 resin in silanized chromosorb W washed with acid (80-100 mesh) did not cause decomposition of the n, n' -DDT. The indicated mixture is efficient for separating a number of chlorine-containing hydrocarbons.

1/1

YERMAKOV V. V.

JPRS 55570
29 MAR 72
UDC: 378.661.3/4

SOME OF THE CURRENT PROBLEMS IN TRAINING SANITARY SPECIALISTS

[Article by Professor V.V. Yermakov, Docent V.G. Mindlin (Moscow); Moscow, Sovetskoye Zdravookhraneniye, Russkaya, No 2, 1972, submitted 9 September 1971, pp 38-42]

In the report of the Central Committee of the CPSU to the 24th Party, L.I. Brezhnev stated: "The important distinctions of the present stage of economic development of our country are also determined by the rapidly developing scientific-technological revolution. Socialism and a planned socialist economy open up the widest field for comprehensive progress in science and technology. At the same time, the scientific-technological revolution demands that many aspects of our economic activities be improved."

Against the background of intensive development of different branches of industry, large scale mechanization of agriculture, municipal and housing construction, technological progress requires considerable improvement in preventive and routine sanitary inspection.

Technological progress is gaining enormous hygienic significance, since the achievements of science and technology create the prerequisites for relieving man of functions that have an adverse effect on his health. At the same time, one should not overlook some of the elements that are detrimental to human health and that emerge as a result of the increasing effect on the environment of industry and other factors that could have undesirable consequences.

F. Engels, in his *Dialectics of Nature*, wrote: "Let us not, however, flatter ourselves too much for our conquests of nature. It takes its revenge for each such conquest. True, each of these conquests does, in the first place, have the consequences that we expected, but in the second and third place, it has quite different and unforeseen consequences which very often cancel out the significance of the first ones" [1].

Characterizing the significance of scientific-technological progress, L.I. Brezhnev indicated: "This is a tremendous force that is beneficial to socialism, but it must be truly conquered" [2].

Acc. Nr: **AP0046550**

Ref. Code: UR 0216

PRIMARY SOURCE: *Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya*, 1970, Nr 1, pp 72-76

V. V. KOVALSKI, S. V. LE TUNOVA, V. V. YERMAKOV

ARTIFICIAL ALTERATION OF BAC. MEGATERIUM ADAPTATION
TO NATURAL SELENIUM CONTENTS IN SOIL

I. V. Vernadski Institute of Geology and Analytical Chemistry

Cultivation of two *Bac. megaterium* strains (29 and 101) isolated from soils with low selenium contents (Moscow region) in media with higher concentrations of this element (5 g per 100 cc) causes adaptation of this microorganisms to these concentrations. The adaptation is revealed by a shift of growing cultures regarding higher selenium concentration in contrast to freshly isolated strains. On the other hand *Bac. megaterium* strains 9 and 20 which had been isolated from soils rich in selenium (Tuva SSR) contents were adapted to lower selenium concentrations in the medium.

In the instance of the Tuva strain 8 no shift of the growth maximum relative to low selenium concentrations in the medium could be obtained. The latter organism remains resistant to a decrease of selenium in the medium.

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USSR

UDC 631.46

KOVAL'SKIY, V. V., LETUNOVA, S. V., and YERMAKOV, V. V., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy

"Artificial Change in Adaptation of Bac. megatherium to the Natural Selenium Content of Soil"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1970, pp 72-76

Abstract: Repeated passaging of Bac. megatherium strains 29 and 101 (isolated from soil with a low selenium content in Moscow Oblast') on Czapek's medium with a selenium content 10 times higher than the concentration optimum for the freshly isolated strains caused adaptation of these strains to the new high selenium level. Similarly, Tuva strains 9 and 20 (isolated from soil with a high selenium content) adapted quickly (after 5-15 passages) to Czapek's medium with a low selenium content. A third Tuva strain (8) was resistant to a lower level of selenium in the medium. One of the possible mechanisms of adaptation of Bac. megatherium to high selenium concentrations may be the appearance of the induced adaptive enzyme Se-reductase, which reduces soluble selenium compounds and converts them to a form unavailable for microorganisms and inactive in the cells.

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USSR

UDC 669.14.018.298:62-977

YERMAKOV, V. V., Taganrog State Pedagogical Institute

"Cyclic Strength of 40KhNMA and 30KhGSA Steels After High Temperature Thermo-mechanical Treatment"

Moscow, Metallovedeniye, No 9, Sep 72, pp 75-76

Abstract: The effect of high-temperature thermomechanical treatment (HTMT) on the cyclic strength of 40KhNMA and 30KhGSA steels was investigated. Ingots were subjected to the following HTMT: heated to 1100-1150°C, air cooled to 950°C, deformed 40%, and oil quenched. Samples were then tempered at 500-600°C. Cyclic strength (5×10^6 cycles) were highest for the HTMT samples and amounted to 60 kgf/mm² at 500°C and 42.5 kgf/mm² at 600°C for 30KhGSA and 61 kgf/mm² at 500°C and 54 kgf/mm² at 600°C for 40KhNMA steel. At stresses equal to 85% of the tensile strength the maximum endurance of 30KhGSA samples was 150,000 cycles after ordinary heat treatment (quench and temper) and 324,060 cycles after HTMT. For 40KhNMA steel these values were 170,200 and 270,180 cycles, respectively. 1 figure, 3 bibliographic references.

1/1

Radiobiology

USSR

UDC 616.839:616-001.26

YERMAKOV, YE. V., and MURASHOV, B. F.

"Pathogenesis of Autonomic Disorders After Prolonged Exposure to Ionizing Radiation"

Moscow, Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 39-41

Abstract: Examination of 68 x-ray technicians and radiologists exposed to low doses of radiation for 3 to 10 years showed much lower levels of 17-hydroxycorticosteroids (17-H) in the blood and urine compared with the control, the extent of the decrease being directly proportional to the severity of the process. The lowest hormonal levels were found in individuals with pronounced chronic radiation lesions. Administration of ACTH to these individuals raised the 17-H levels considerably. This clear-cut response of the adrenals to exogenous ACTH indicates that the insufficiency of the hypothyseal-adrenal system after chronic irradiation is caused not by exhaustion of the adrenal cortex but by a weakening of the stimulating effect of the hypophysis due to diminished elaboration of such hormones as ACTH. EEG abnormalities were also detected in those suffering from chronic radiation lesions: mainly decreased amplitude of the alpha rhythm and appearance of slow low-voltage activity. The electrophysiological data and results of the hormonal

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USSR

YERMAKOV, YE. V., and MURASHOV, B. F., Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 39-41

studies suggest that it is the CNS that is primarily affected by prolonged ionizing radiation, first the reticular formation and hypothalamus and then the hypophyseal-adrenal system. Impairment of the regulatory function of the higher autonomic centers situated in the hypothalamus is manifested by a variety of autonomic changes.

2/2

- 34 -

USSR

UDC 616.432+616.453]-057:613.647:538.3

YERMAKOV, Ye. V., Doctor of Medical Sciences, and MURASHOV, B. P., Candidate of Medical Sciences

"Pathogenesis of Neuroendocrine Disturbances After Prolonged Exposure to Microwave Field"

Moscow, Sovetskaya Meditsina, No 9, Sep 70, pp 138-139

Abstract: A study was made of 37 persons who had been occupationally exposed to microwave fields for 2 to 8 years and who exhibited symptoms of asthenic and autonomic-vascular disturbances and endocrine shifts. Pathological EEG's were recorded in half the patients, and even in those with a normal baseline EEG, reflexes in response to light and sound were weak, distorted, or nonexistent. The skin galvanic reaction to a flashing light was abnormally intense and prolonged. A low content of 17-hydroxyketosteroids in blood plasma and urine as well as other signs of diminished secretion of the adrenal cortex, were noted in almost half the patients. The hypoadrenocorticism is regarded as a secondary symptom arising as a result of a weakening of the hormonal (adrenocorticotrophic) activity of the hypophysis.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INITIATION DURING ETHYLENE POLYMERIZATION ON A CHROMIUM OXIDE
CATALYST--L-
AUTHOR--(04)--YERMAKOV, YU.I., ZAKHAROV, V.A., GRABOVSKIY, YU.P.,
KUSHNAREVA, E.G.
COUNTRY OF INFO--USSR
SOURCE--KINET. KATAL. 1970, 11(2), 519-23
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHYLENE, POLYMERIZATION, CHROMIUM OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1728 STEP NO--UR/0195/70/011/002/0519/0523
CIRC ACCESSION NO--AP0125349
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125349

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NOS. OF CENTERS OF GROWTH DURING CR OXIDE CATALYZED ETHYLENE POLYMN., (AT 25-75DEGREES-15-35 ATM ON SiO₂ SUB2 OR AL SILICATE CATALYST SUPPORT) ARE COMPARED WITH THE CONTENT OF CR IN DIFFERENT VALENCE STATES. CR(VI) IS APPARENTLY THE ACTIVE COMPONENT OF THE CATALYST. INITIATION IS ACCOMPANIED BY REDN. OF CR; AND IN THE CENTER OF GROWTH, THE VALENCE OF CR IS LESS THAN OR EQUAL TO 3.

FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--TEMPERATURE DEPENDENCE OF THE GROWTH RATE CONSTANT DURING THE
POLYMERIZATION OF ETHYLENE ON A CHROMIUM OXIDE CATALYST -U-
AUTHOR-(03)-ZAKHAROV, V.A., YERMAKOV, YU.I., KUSHNAREVA, E.G.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(1) 64-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--TEMPERATURE DEPENDENCE, POLYMERIZATION RATE, CHROMIUM OXIDE,
ETHYLENE, CATALYST ACTIVITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/0251 STEP NO--UR/0460/70/012/001/0064/0067
CIRC ACCESSION NO--AP0102301
UNCLASSIFIED

2/2 013
CIRC ACCESSION NO--AP0102301

UNCLASSIFIED

PROCESSING DATE--19SEP70

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. C SUB2 H SUB4 WAS POLYMD. IN THE PRESENCE OF AN ACTIVATED CRO SUB3 CATALYST (CONTG. 90PERCENT LARGER THAN OR EQUAL TO CR PRIMEV) DEPOSITED ON SILICA GEL IN ORDER TO EVALUATE THE ACTIVATION ENERGY OF PROPAGATION (E SUBP) AND EFFECTIVE ACTIVATION ENERGY (E SUBEF). A PLOT OF STEADY STATE POLYMN. RATE VS. RECIPROCAL OF ABS. TEMP. (1-T) GAVE E SUBEF EQUALS 10 PLUS OR MINUS 1 KCAL-MOLE, WHEREAS A PLOT OF LOG K SUBP VS. 1-T (WHERE K SUBP IS THE PROPAGATION RATE CONST.) GAVE E SUBP EQUALS 4.2 PLUS OR MINUS 0.5 KCAL-MOLE AND THE PREEXPONENTIAL FACTOR EQUALS 1 TIMES 10 PRIME9 1. TIMES (MOLE TIMES HR) PRIME NEGATIVE1. THE DIFFERENCE BETWEEN E SUBP AND E SUBEF IS DUE TO INCREASED CONC. OF PROPAGATION SITES IN THE CATALYST AT HIGHER TEMPS. THE FORMATION OF PROPAGATION SITES ON THE CATALYST IS AN IRREVERSIBLE REACTION.

UNCLASSIFIED

1/2 023
UNCLASSIFIED
PROCESSING DATE--18SEP70
TITLE--MORPHOLOGICAL STRUCTURES OF MEDIUM PRESSURE POLYETHYLENE ARISING
DIRECTLY DURING POLYMERIZATION -U-
AUTHOR--(04)-EMIROVA, I.V., YERMAKOV, YU. I., NEVYANTSEV, I.A., RATNER, I.D.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN, SER. B 1970, 12(1), 23-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POLYETHYLENE, POLYMERIZATION, POLYMER STRUCTURE, ELECTRON
MICROSCOPY, CHROMIUM OXIDE, CRYSTALLINE POLYMER, SPHERULITE, MOLECULAR
WEIGHT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0925
STEP NO--UR/0460/70/012/001/0023/0024
CIRC ACCESSION NO--AP0055623
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055623

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON MICROSCOPY OF MODERATE PRESSURE POLYETHYLENE (I) OBTAINED BY THE POLYMMN. OVER CRO SUB3 ON SILICA GEL OR ALUMINOSILICATE SUPPORTS IN GAS PHASE, LIQ. PHASE, OR IN A SOLVENT SHOWED THAT THE CRYST. FORM IS GOVERNED PREDOMINANTLY BY THE MOL. WT. OF I. IN THE GAS PHASE SMALL SPHERULITES OR LENTICULAR CRYSTALS, IN SOLNS. SPHERULITES, AND IN THE LIQ. PHASE LARGE NEEDLE SHAPED CRYSTALS WERE OBTAINED.

UNCLASSIFIED

Industrial

USSR

UDC 621.90

SHAUMYAN, G. A., Doctor of Technical Sciences, Professor; ~~VERMAKOV, YU. M.~~
Engineer, Moscow Higher Technical School imeni N. E. Baumann

"Study of the Codirectional Turning Method in Working Internal Surfaces"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12,
1971, pp 152-157

Abstract: Studies of the codirectional turning of internal surfaces yielded expressions for three component cutting forces as a function of cutting rate, supply, and depth and also of the tool geometry. The codirectional turning method was tested on 1K62 and 1D62 lathes and the apron of the 1K62 lathe was equipped for displacement in the transverse direction of a worm reducer with a drive independent of the machine shaft. The tool shaft in which the cutting head was fastened was rotated with a supply coinciding with the rate of rotation of the part. It was found that with a constant cutting width the cutting forces decrease toward the end of the working. The cutting forces in all coordinates in turning with a circular supply are determined by formulas similar to those for ordinary cutting with the thickness of the section A replaced by

1/2

USSR

SHAUMYAN, G. A., et al, Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12, 1971, pp 152-157

the supply S. The effect of the lead angle on the cutting force is the same as in ordinary turning. The cutting forces in codirectional turning are 20-40% less than in counterturning due to the transformation of the angles of the cutting force.

2/2

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1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MEASUREMENT OF THE CONCENTRATION OF A REGENERATION SOLUTION OF
AMMONIUM SULFATE IN A CHEMICAL WATER TREATMENT PLANT OF A THERMAL POWER
AUTHOR--(04)-YERMAKOV, YU.V., GLUKHOV, V.S., AFANASYEV, M.I., PERTSEVA,
L.V.
COUNTRY OF INFO--USSR
SOURCE--ENERGETIK 1969, 17(8), 14-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, ENERGY CONVERSION (NON-PROPULSIVE)
TOPIC TAGS--WATER REGENERATION, AMMONIUM SULFATE, SOLUTION CONCENTRATION,
ELECTRIC CONDUCTIVITY MEASUREMENT, ELECTRIC POWER PLANT/(U)KK8
CONDUCTIVITY METER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRUXY REEL/FRAE--1988/0051 STEP NO--UR/0091/69/017/008/0014/0015
CIRC ACCESSION NO--AP0105150
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 011

CIRC ACCESSION NO--A00105150

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE CONCNS. OF (NH SUB4) SUB2 SO
SUB4 WERE DETD. IN THE RANGE OF 1-4PERCENT, CONTINUOUSLY BY THE TITLE
APP. WITH A LOW FREQUENCY CONTACTLESS ELECTRODE, WITH AN ACCURACY OF
PLUS OR MINUS 0.2PERCENT. THE SCHEME OF THE APP. IS GIVEN.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 013

TITLE--KINETICS AND MECHANISM OF CATALYTIC CONVERSIONS OF ACETYLENE. VI.
HYDRATION AND HYDROCHLORINATION OF ACETYLENE IN SOLUTIONS OF CUPROUS

AUTHOR--(05)--SHESTAKOV, G.K., YERMAKOVA, A., MIKHALCHENKO, V.G., TEMKIN,

D.N., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 406-11

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, CHLORINATION, HYDRATION,
ACETYLENE, COPPER CHLORIDE, CATALYSIS, REACTION KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0892

STEP NO--UR/0076/70/044/002/0406/0411

CIRC ACCESSION NO--AP0124555

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 013
CIRC ACCESSION NO--AP0124555
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE KINETICS OF HYDROCHLORINATION AND HYDRATION OF C SUB2 H SUB2 WERE MEASURED IN CUCLNH SUB4 CL,HCL,H SUB2 O SOLNS. AT 80DEGREES IN A FLOWING GRADIENT FREE REACTOR. THE RATE OF HYDROCHLORINATION W PRIMEX EQUALS 0.573 TIMES 10 PRIME NEGATIVE6 A SUBCUPOSITIVE PRIME1.48 A SUBCLNEGATIVE PRIME2.7P SUBC2H2H SUBO A SUBH2O AND THE RATE OF HYDRATION W PRIMEA EQUALS 3.9 3.19 TIMES 10 PRIME NEGATIVE6 A SUBCLNEGATIVE PRIME1.44 P SUBC2H2 H SUBO A SUBH2O)-(1 PLUS 2.6 H SUBO A SUBH2O). THE FRACTIONAL VALUES OF THE EXPONENTS AND AN ANAL. OF THE PROPOSED REACTION MECHANISM INDICATE THE PRATICIPATION OF CUCL PRIME2 NEGATIVE, CUCL SUB3 PRIME2NEGATIVE, AND CU SUB2 CL SUB3 PRIME NEGATIVE. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--HYDRODYNAMICS OF A GAS LIQUID REACTION VESSEL WITH A FLUIDIZED BED
OF SOLIDS -U-
AUTHOR--(03)--YERMAKOVA, A., ZIGANSHIN, G.K., SLINKO, M.G.
COUNTRY OF INFO--USSR
SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(1), 95-101
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUIDIZED BED, HYDRODYNAMICS, PRESSURE GRADIENT, SOLID STATE,
FLUID PHASE, AIR FLOW, HEPTANE, GLYCEROL, GLASS SURFACE PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0124 STEP NO--UR/0455/70/004/001/0095/0101
CIRC ACCESSION NO--AP0103804
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0103804

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPTL. RESULTS OF THE HYDRODYNAMIC STUDY OF A 3 PHASE FLUIDIZED BED (TFB) GAS LIQ. SOLID ARE PROCESSED FROM THE POINT OF VIEW THAT THE WHOLE SYSTEM IS A SYNTHESIS OF 1 SIMPLE SYSTEMS: A GAS LIQ. FOAM AND A LIQ. SOLID FLUIDIZED BED. THE MEASUREMENTS WERE PERFORMED UNDER THE FOLLOWING CONDITIONS: SOLID PHASE GLASS BALLS DIAM. 0.6-2.0 MM; SYSTEMS WATER AIR, WATER SOLNS. OF GLYCEROL AIR, N HEPTANE AIR; DIAM. OF THE APP. 100 AND 200 MM, VELOCITIES OF THE GAS AND LIQ. 0.0-62, AND 0.0-10 CM PER SEC, RESP., ON THE FREE CROSS SECTION. THE BEHAVIOR OF THE TFB WAS OBSD. VISUALLY AND THE FOLLOWING QUANTITIES WERE RECORDED: THE BEGINNING OF THE FLUIDIZATION IN THE 2 PHASE SYSTEM LIQ. SOLID, THE BEGINNINGS OF THE NONHOMOGENEOUS AND HOMOGENEOUS FLUIDIZATION IN THE TFB, THE GAS CONTENT AND THE PRESSURE DROP OF THE TFB. THE MATH. TREATMENT OF THE CURVES CHARACTERIZING THE AREAS OF HOMOGENEOUS FLUIDIZATION IN TFB AND THE EQUATION FOR CALCG. THE PRESSURE DROP OF THE TFB ARE PRESENTED. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC 542.91+661.718.1

YARMUKHMETOVA, D. Kh., SPERANSKAYA, Z. G., KUDRYAVTSEV, B. V., and YERMAKOVA, Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, USSR Academy of Sciences

"Monothio- and Dithiophosphonacetylphenothiazines and Phenoxazines"

Moscow, Izvestiya Akademii Nauk SSR, Seriya Khimicheskaya, No 4, 1971, pp 802-806

Abstract: Because of their marked biological properties, esters of monothio- and dithio- acids of phosphorus during the past few years have been the object of research, leading to the discovery of new compounds, among other results.

In the present study of the reactions of chloroacetylphenothiazine with salts of the monothiophosphoric acids, the following new compounds were discovered: 10-[(0,0-dialkylphosphonothio)acetyl]phenothiazines (alkyl: ethyl, propyl, 1-propyl, butyl, 1-butyl), 10-methyl(ethyl) -3- [(0,0-diethylthionophosphothio)acetylamino]phenothiazines, [(0,0-diethyldithio-phosphono)acetyl]phenothiazine, 10-(0,0-diethylphosphonothioacetyl)phenoxazine, 10-[(0,0-dialkyldithiophosphono)acetyl]phenoxazines (alkyl: 1/2

USSR

YARMUKHAMETOVA, D. Kh.; et al., Izvestiya Akademii Nauk SSR, Seriya Khimicheskaya, No 4, 71, pp 802-806

ethyl, propyl, i-butyl), and 2, 10-bis-[0,0-diethyldithiophosphono)acetyl] phenothiazine.

Tests for larvacidal and antifungus properties have been started on these new compounds but have thus far showed no positive results.

2/2

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USSR

UDC 632.771:616.988

YERMAKOVA, G. N., All-Union Institute of Veterinary Medicine

"Virus Infection in the Mosquito *Aedes caspius dorsalis* (Meig.)"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk,
No 11, 1972, pp 36-37

Abstract: *Aedes caspius dorsalis* larvae collected from bodies of stagnant body were diagnosed as having a virus infection on the basis of external appearance (general sluggishness, milky white color of the body with greenish-blue tint) and electron and light microscopic studies. The peculiar color of the insects, pathological changes in the tissues (hypertrophy of cells of the hypodermis, fat body, and trachea, loss of cross striation and fraying of the muscles), presence regular hexagonal-shaped particles, and DNA nature of the virus suggested that the infection was caused by an iridescent virus. It is noted that the diameter of the virus particles was larger than that of other iridescent viruses of mosquitoes.

1/1

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USSR

AMOSOV, N. M., LISHCHUK, V. A., PALETS, B. L., PATSKINA, S. A., YERMAKOVA, I. I., LYABAKH, Ye. G.

"Algorithmic Support of a Model of the Internal Sphere of an Organism"

Upr. i Inform. Protsessy v Zhivoy Pripode. [Control and Information Processes in Living Nature -- Collection of Works], Moscow, Nauka Press, 1971, pp 178-182, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V594 by V. Mikheyev).

Translation: Requirements are studied for a system of algorithmic support of the model of the "internal sphere" of an organism for realization by digital computer. The most important are the following: 1) the model must have a modular structure with the minimum number of global variables; 2) all modules of the model should be described in the same language; 3) great independence (in the sense of programming) of individual modules from each other and from the system as a whole is possible; 4) good controllability of the program realizing the model; 5) the program should have wide possibilities for contact with the operator during the process of computation; 6) self-improvement of the model during operation. The modules of the general model of the "internal sphere" of the organism are the cardiovascular system, the temperature control system, the respiration control system, the system for

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1. LYABAKH, Ye. G., Upr. i Inform. Protsessy v zhivoy prirode, Moscow, Nauka Press, 1971, pp 178-182.

self-regulation of local blood circulation, the regulation of water and salt metabolism and the central nervous control system. Mathematical models are presented for the system of regulation of blood flow through the skeletal musculature and the system for temperature control in the organism. It is noted that programs have been created on their basis for machine realization in the input language BESM-ALGOL. A special "control" program is called for, allowing printout of all variables of interest to an investigator in digital or graphic form, as well as calculation of a number of arbitrary quantities for the model (mean values, integral estimates, etc.).

2/2

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1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RAPID CHEMICAL ANALYSIS OF COPPER TELLURIDES -U-
AUTHOR--YERMAKOVA, L.V., SUKOLOVA, A.L.
COUNTRY OF INFO--USSR
SOURCE--POROSH. MET. 1970, 10(1) 69-70
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COPPER, CHEMICAL ANALYSIS, TELLURIDE, CHROMATE, TELLURIUM

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1989/0594 STEP NO--UR/0226/70/010/001/0049/0070
CIRC ACCESSION NO--AP0107191
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107191

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CU TELLURIDES ARE ANALYZED WITHOUT
SEPN. OF CU FROM TE. CU IS DETD. COMPLEXIMETRICALLY WITH PLUS OR MINUS
0.02PERCENT ERROR, AND TE IS DETD. BY THE DICHROMATE METHOD WITH
0.05PERCENT ERROR. THE DETN. OF CU TAKES 1.5 HR, AND THAT OF TE TAKES 4
HR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CALCULATION OF THE ULTRAVIOLET AND VISIBLE ABSORPTION SPECTRA OF A
NICKEL, II 1,5-DIPHENYLFORMAZAN COMPLEX -U-
AUTHOR-(05)-YURCHENKO, E.N., KUKUSHKINA, I.I., YERMAKOVA, M.I., AVDEYEV,
V.I., LATOSH, N.I.
COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 47-54

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UV SPECTRUM, ABSORPTION SPECTRUM, NICKEL COMPLEX, CALCULATION,
MOLECULAR ORBITAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1720

STEP NO--UR/0379/70/006/001/0047/0054

CIRC ACCESSION NO--AP0129088

UNCLASSIFIED

272 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129088

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FREQUENCIES OF THE MAX. AND THE OSCILLATOR STRENGTHS ARE GIVEN OF BANDS OF THE ABSORPTION SPECTRA OF 1,5-DIPHENYLFORMAZAN I, AND ITS NI(II) COMPLEX (II), RESOLVED INTO INDIVIDUAL GAUSSIAN COMPONENTS, IN THE SOLNS. OF CCL SUB4, ME SUB2 CO, AND ETOH. IN VIEW OF THE INTERPRETATION OF THE BANDS, THE CALC. OF THE MOLS. I AND II, BY USING THE MO LCAO METHOD OF MULLIKEN HELMHOLTZ WOLFSBERG, WAS PERFORMED. THE SINGLE ELECTRON SCHEMES OF THE ENERGY LEVELS OF I, AND II, AND THE ASSIGNMENTS OF THE TRANSITIONS ARE GIVEN. THE INTENSITY OF THE LONGWAVE ABSORPTION OF I RISES IN GOING FROM CCL SUB4 TO ETOH, WHEREAS THE INTENSITY OF THE TRANSITIONS AT SHORTER WAVELENGTHS DID NOT CHANGE. THE OSCILLATOR STRENGTHS OF THE 1ST TRANSITION AND OF THE TRANSITIONS AT SHORTER WAVE LENGTHS DECREASED IN THE SPECTRUM OF II WITH THE INCREASING INTERACTION OF THE SOLVENTS IN THE ABOVE SEQUENCE. THIS INTERACTION CAUSES THE DECREASE OF THE NEG. CHARGE OF THE N ATOMS AND THE DECREASE OF THE OSCILLATOR STRENGTHS OF THE TRANSITIONS BETWEEN THE MO WHICH INCLUDED THE AD OF N. THE BAND OF II WHICH LIES IN THE IR REGION AT 4500 CM PRIME NEGATIVE1 WAS ASSIGNED, ON THE BASIS OF THE CALCNS., TO THE ELECTRONIC TRANSITION 9A SUBG-6A SUBU. ALL TRANSITIONS WERE INTERPRETED AS PI PI SEXTILE TRANSITIONS.

FACILITY: IZHEVSK. MEKH. INST., IZHEVSK, USSR.

UNCLASSIFIED

USSR

UDC 57.085.23:576.851.55.097.29

YERMAKOVA, M. P., SHAMRAYEVA, S. A., ZEMLYANITSKAYA, Ye. P., and VLASOVA, Ye. V., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Morphological and Histochemical Changes Produced by *Clostridium sordelli* and *Clostridium oedematiens* Toxins in Cultures of Fibroblasts, Kidney Epithelium, and Macrophages"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 23-28

Abstract: *C. sordelli* and *C. oedematiens* toxins had a marked cytotoxic effect on cultures of chick fibroblasts, transplanted human fetal kidney epithelium, and macrophages from a guinea pig peritoneal exudate. *C. sordelli* toxin caused vacuolar degeneration of the cytoplasm, while *C. oedematiens* toxin produced karyorrhexis, karyopyknosis, karyolysis, karyorrhexis, and marked fatty degeneration of the cytoplasm. Histochemical analysis showed that both toxins intensified acid phosphatase activity in the cytoplasm of the fibroblasts and macrophages, decreased the RNA content of the kidney epithelial cells, and stimulated the formation of lumps of glycogen. The cytotoxic effect was not manifested when the various cultures

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USSR

YERMAKOVA, M. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 23-28

were grown on a nutrient medium containing a mixture of one of the toxins and the corresponding antitoxic serum. A comparative morphological and histochemical study of the effect of *C. sordelli* and *C. oedematiens* exotoxins on sensitive cultures revealed sharp changes in cell structure, lipid content, and acid phosphatase activity characteristic of the particular toxin.

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Physical Properties

USSR

UDC 669.293.1/669.018.2+537.311.37:669.787

YERMAKOVA, M. P., KALININA, Z. G., and NESTERENKO, A. G.

"Study of the Effect of Small Quantities of Oxygen on the Properties of Niobium"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronics Engineering. Collection of Scientific and Technical Works: Materials), 1970, vyp. 5, pp 6-9 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I762 by authors)

Translation: A procedure was devised for introducing small quantities of O into Nb by the anodizing method. Data were obtained on the effect of small O concentrations (0.001-0.1%) on the hardness, microhardness, and electrical resistance of Nb. The results make it possible to determine the O concentration of Nb by simply measuring the physical properties of the metal.

UDC 616.981.57-092.9-091

USSR

YERMAKOVA, M. P., and VLASOVA, YE. V., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Morphological and Some Histochemical Changes in the Organism of Immune Guinea Pigs Upon Intramuscular Administration of Cl. sordellii Toxin"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 105-109

Abstract: Two-fold immunization of guinea pigs with Cl. sordellii toxoid in doses of 5 SU resulted in development of an intense antitoxic immunity that protected the animals from gas gangrene, as could be shown by administration to them of Cl. sordellii toxin. On intramuscular injection of immunized animals with 1-3 ID₅₀ of the toxin, a local necrotic lesion of limited extent formed in which intensive infiltration of leukocytes and macrophages took place. The polymorphonuclear leukocytes at the site of the lesion had a high content of alkaline phosphatase and glycogen, while the polyblasts and histiocytes were enriched in acid phosphatase. This indicated a raised functional activity of the cells in question associated with the fact that they exerted a protective action. The pathological process in the local lesion terminated rapidly, whereupon healing took place. The severe pathological changes in

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USSR

YERMAKOVA, M. P., and VLASOVA, YE. V., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 105-109

muscles and internal organs (specifically the kidneys and liver), intramuscular and endoneural hemorrhages, and edema that were observed in nonimmunized animals upon administration of the toxin did not develop. Pronounced immunomorphological changes indicating the high level of immunity took place in the lymph nodes and spleen of the immunized animals.

2/2

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1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF RESIDUAL AMOUNTS OF DDT IN MILK -U-
AUTHOR--(04)-YERMAKOVA, P.N., OLSHANOVA, K.M., FEKLISOVA, L.S., POTAPOVA,
M.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (2), 221-2
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DDT INSECTICIDE, FOOD CONTAMINATION, PROCESSED ANIMAL PRODUCT,
CHROMATOGRAPHIC ANALYSIS, THIN LAYER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0160

STEP NO--UR/0322/70/000/002/0221/0222

CIRC ACCESSION NO--AT0137304

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 014

CIRC ACCESSION NO--AT0137304

ABSTRACT/EXTRACT--(U) GP-0-

CHROMATOG. IS PRESENTED.

AL SUB2 O SUB3 AND SILICA GEL (1:1) WITH PARTICLE DIAM. 0.1-0.25 MM.

THE BEST SOLVENT WAS N HEXANE, WITH MOTION ON THE PLATE AT THE SLOPE

ANGLE 4-9DEGREES.

PROM., MOSCOW, USSR.

ABSTRACT. THE METHOD OF THIN LAYER
THE BEST ADSORBENT WAS FOUND TO BE A MIXT. OF
FACILITY: MOSK. TEKHNOL. INST. MYAS. MOLOCH.

UNCLASSIFIED

YERMAKOVA, S.F.

1985 5 25 75
2 Jan 73

- 29 -

Information pertaining to domestic conditions, family composition, financial status, working conditions, desired duration of work day is of great interest, not only to assess the situation regarding junior medical personnel in hospitals but also for proper orientation in future screening of attendants for employment.

In the Soviet medical literature the duties of attendants in hospital departments have been discussed rather comprehensively (S.A. Rusanov; G. Sobolevskiy; V.Ya. Savvina; Z.G. Yashkova). Several works deal with availability of public health workers and methods of planning ward nurse and attendant posts (I.A. Chernysheva; A.A. Margulis and N.A. Kopyev) and advancing their qualifications (R.R. Mitropol'skiy; G.K. Blagoveshchenskiy; H.I. Shpakovskaya; A.H. Rodicheva). More recently there have been articles dealing with work schedules of hospital attendants in Moscow (I.S. Vinogradov et al.). However, we failed to encounter any special articles dealing with the social characteristics of such personnel and suggestions to diminish turnover in the hospitals of large cities. This prompted the staff of our chair to investigate this matter in several large hospitals of Kiev and to delineate the means of improving the supply of junior medical and other service personnel at therapeutic institutions.

The turnover among junior medical personnel of therapeutic and prophylactic institutions of large cities is considerable, however, this has not been reflected in statistical reports.

At the present time there is particular urgency with regard to staffing hospitals of major cities with junior and other service personnel.

[Article by L.M. Nevitskiy, Candidate of Medical Sciences, B.V. Tarasenko, B.E. Iremashchenko, Chair of Social Hygiene and Public Health Organization (headed by Professor P.L. Shipilov), Kiev Institute for Advanced Training of Physicians; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1972, submitted 30 April 1972, pp 26-29]

JUNIOR MEDICAL AND OTHER SERVICE PERSONNEL IN SOME HOSPITALS OF KIEV AND PROSPECTS OF ADEQUATE SUPPLY THEREOF

UDC: 614.73.064.92.097

USSR

UDC 621.785

SLYS', I. G., FEDORCHENKO, I. M., YERMAKOVA, YE. N., and PUGINA, L. I.,
Institute of Problems of Material Science, Ukrainian SSR Academy of Sciences

"Investigation of the Process of Sulfurization of Cermet Stainless Steels;
Report II"

Kiev, Poroshkovaya Metallurgiya, No 4, Apr 73, pp 37-43

Abstract: A new method of sulfurization of sintered materials is proposed and investigated. It is shown that for the process of sulfurization of stainless steels it is necessary to create conditions which will promote interaction of sulfur with alloy components. The conditions which increase reactivity of the alloy components. The conditions which increase reactivity of the alloy are: very long reaction surface, high concentration of defects of the crystalline structure, and heterogeneity of alloy microvolumes according to the chemical composition. The combination of sintering with sulfurization allows reduction of the temperature of sintering by 250-300°C. It is shown that sintered (in the presence of sulfur at 950°C) stainless porous steel is highly corrosion and wear-resistant during bearing contact.

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USSR

UDC 621.762:669.018.24(088.8)

FEDORCHENKO, I. M., SLYS', I. G., PUGINA, L. I., YERMAKOVA, YE. N.

"Cermets Antifriction Material"

USSR Author's Certificate No 276425, Filed 14 Oct 68, Published 16 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G463P)

Translation: The material, based on stainless steel, contains Fe, C, Cr, and S. In order to improve the supporting capacity and corrosion resistance, Ni is introduced into the material, and the components are taken in the following ratios (in %): Cr 13-32, Ni 0.5-20, S 0.55-7.0, C 0.07-0.8, and Fe for the rest.

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USSR

UDC 615.31:547.869.2].012.1

GRITSENKO, A. N., YERMAKOVA, Z. I., ZHURAVLEV, S. V., VIKHLYAYEV, Yu. I., and KLYGUL', T. A., Institute of Pharmacology of the USSR Academy of Medical Sciences Moscow

"Synthesis in the Phenthiazine Series. XXXI. 10- γ -Alkylaminopropyl and 10- β -Alkylaminopropionyl Derivatives of Substituted Phenthiazines"

Moscow, Khimiko Farmatsevticheskiy Zhurnal, No 7, Vol 5, July 1971, pp 10-14

Abstract: A study was made of the synthesis of a series of 10- γ -alkylaminopropyl and 10- β -alkylaminopropionyl derivatives of 1-nitro, 4-nitro, 1-bromo and 1,3-dibromophenthiazines, and their pharmacological characteristics were compared. In order to obtain the aminoalkyl chain in position 10 of the phenthiazine, γ -dimethylaminopropylchloride and N-methyl-N'-(γ -chloropropyl)piperazine were used. The 10-(β -chloropropionyl) derivatives were obtained by interaction of the phenthiazine with β -chloropropionylchloride. All the investigated compounds had a clear sedative effect and were active with respect to all tests. The piperazinyl derivatives were, as a rule, more active than the compounds with dialkylaminoalkyl substitutions in position 10. Halogenation of the phenthiazine ring with respect to positions 1, 3 and 4 leads to weakening of the activity of the compounds by comparison with the unsubstituted analogs and with compounds having similar substitutions in position 2. Halogenation with

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USSR

GRITSENKO, A. N., et al., Khimiko Farmatsevticheskiy Zhurnal, Vol 5, No 7,
July 1971, pp 10-14

respect to position 2 is the optimal version for activity of the compounds. Formation of the ethers with respect to position 2 leads to lowered activity. The mechanisms of these effects are discussed.

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USSR

UDC 613.644.677

YERMAKOVA, V. M., Department of Labor Hygiene, Belorussian Scientific Research Institute of Sanitation and Hygiene

"Hygienic Evaluation of Noise in Weaving Shops of the Minsk Worsted Plant"

Minsk, Zdravookhraneniye Belorussii, No 4, 1971, pp 49-51

Abstract: Examination of 29 weavers who were employed for 10 years or more in the Minsk Worsted Plant revealed a bilateral deterioration of bone and air conduction and impairment of hearing (about 40 to 60 db) in the high-frequency range. The pulse rate averaged 4 beats per min higher than controls and arterial pressure was 6 mm higher. Thirteen persons exhibited pronounced neurasthenic symptoms along with the hearing loss. The intensity of the noise could be significantly reduced if shuttleless looms replaced the existing machines, and if the walls and ceiling were lined with sound-absorbing materials. The wearing of earplugs would prevent damage to the ears and increase productivity appreciably.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 016

TITLE--PHETANOL IN TREATING PRIMARY GLAUCOMA --U-

AUTHOR--YERMAKOVA, V.N.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 35-36

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADRENERGIC DRUG, CARDIOVASCULAR DRUG, EYE DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1934

STEP NO--UR/0357/70/000/003/0035/0036

CIRC ACCESSION NO--AP0127335

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0127335
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHETANOL, A SOVIET MADE ADRENERGIC
DRUG, WAS USED IN 3 AND 5PERCENT SOLUTIONS COMBINED WITH NYOTICS TO
TREAT PRIMARY GLAUCOMA WITH AN OPEN ANGLE OF THE ANTERIOR CHAMBER IN 51
PATIENTS (71 EYES) WITH SUBCOMPENSATED AND NONCOMPENSATED INTRAOCULAR
PRESSURE. THE PHETANOL SOLUTION WAS INSTILLED TWICE A DAY. IN 55 OF 71
EYES THE DROP OF THE TONOMETRIC INTRAOCULAR PRESSURE AVERAGED 7.5 MM.
AS EVIDENCE TONOGRAPHICALLY THE FALL OF THE PRESSURE OCCURRED DUE TO A
DIMINISHED PRODUCTION OF THE AQUEOUS HUMOR, ON THE AVERAGE BY 38PERCENT.
PHETANOL DID NOT BRING ON PERSISTENT CHANGES IN THE FACILITY OF
OUTFLOW. THE RESULTS OBTAINED JUSTIFY RECOMMENDING THE DRUG AS AN
EFFECTIVE HYPOTENSIVE AGENT IN TREATING GLAUCOMATOUS PATIENTS PRESENTING
OPEN (WIDE OF MEDIUM WIDE) ANGLE OF THE ANTERIOR CHAMBER.
FACILITY: MOSKOVSKIY NAUCHNO ISSLEDOVATEL'SKIY INSTITUT GLAZNYKH
BOLEZNEY IM. GEL'MGOL'TSA.

UNCLASSIFIED

USSR

UDC 535.33

YERMAKOVA, YE. G.; KRASNOVA, T. L., MALYKHINA, N. N., MOSIN, A. M.,
ONOPRIYENKO, M. I., CHERNYSHEV, YE. A., and SHPAK, M. T., Institute of Physics, Academy of Sciences Ukrainian SSR, Kiev

"Electron-Vibrational Absorption Spectra in the Near UV of Phenylsilane and Methylphenylsilanes"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 811-817

Abstract: The article describes results of a study of electronic vapor and crystal absorption spectra for phenylsilane $C_6H_5SiH_3$ and methylphenylsilanes $C_6H_5SiH_2CH_3$, $C_6H_5SiH(CH_3)_2$, $C_6H_5Si(CH_3)_3$, as well as a comparison of the effect of the silicon atom on the aromatic ring with the effect of carbon in hydrocarbon molecules similar in structure. It was found that replacement of the carbon atom by silicon in the molecules investigated results in a 300-360 cm^{-1} increase in the spectrum shift to the long-wavelength region and intensification of the transition considered. This indicates great distortion of the hexagonal symmetry of the π cloud of the phenyl ring in organosilicon

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USSR

YERMAKOVA, YE. G., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 811-817

molecules as compared to the analogous hydrocarbon molecules. The spectral data suggest that there is hyperconjugation between the Si-H bonds and the phenyl ring. Electronic excitation is found to have a greater effect on the silyl group than on the alkyl group, possibly due to the $(p - d)_{\pi}$ -interaction between silicon and the pi electrons of the aromatic ring.

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1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DERIVATIVES OF IMIDAZO, 4,5,1,KL, PHENOTHIAZINE -U-

AUTHOR--(03)-GRITSENKO, A.N., YERMAKOVA, Z.I., ZHURAVLEV, S.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,395

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTRY, TOVARNYE ZNAKI, 1970 47

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, IMIDAZOLE, ORGANIC SULFUR COMPOUND, ORGANIC
AZINE COMPOUND, AMINE, FORMIC ACID, ACETIC ACID, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3007/0853

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136287

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136287
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPODS. ARE PREPD. BY
TREATING L,AMINOPHENOTHIAZINE WITH FORMIC OR TRIFLUORACETIC ACID AT
100-200DEGREES. FACILITY: INSTITUT FARMAKOLOGII I KHIMIOTERAPII
AKADEMII MEDITSINSKIKH NAUK SSSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--1, MERCAPTOIMIDAZO 4,5,1,N,H PHENOTHIAZINE -U-
AUTHOR-(03)-GRITSENKO, A.N., YERMAKOVA, Z.I., ZHURAVLEV, S.V.
COUNTRY OF INFO--USSR
SOURCE--USSR 265,111
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MERCAPTAN, IMIDAZOLE, ORGANIC SULFUR COMPOUND, ORGANIC AZINE
COMPOUND, CHEMICAL PATENT, ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1458 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128857
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128857

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPD. IS PREPD. BY
TREATING 1,AMINOPHENOTHIAZINE WITH CS SUB2 IN THE PRESENCE OF AN AQ.
SOLN. OF KOH AND ALC. OR POWD. S. FACILITY: INSTITUTE OF
PHARMACOLOGY AND CHEMOTHERAPY, ACADEMY OF MEDICINAL SCIENCES, USSR.

UNCLASSIFIED

USSR

UDC 576.3:612.017:615.5

YERMAKOVICH, A. P., and ROZIN, M. A.

"Incorporation of Labeled Leucine in Parasympathetic Nerve Cells of Isolated Frog Auricles", pp 29-32, Sintez Belka i Rezistentnost' Kletok, (Protein Synthesis and Cell Resistance), Leningrad, "Nauka," 1971, 104 pp

Abstract: The intensive incorporation of C^{14} -leucine in parasympathetic nerve cells of isolated frog auricles is shown by the autoradiographic method. Puromycin ($5 \cdot 10^{-5}$ g/ml) completely suppressed the incorporation of amino acid. Within one hour after 5-minute damage of the auricles with distilled water, the incorporation of leucine did not take place in 28% of the cells, positively declined in 5%, and did not change in the remainder. Within two hours after damage, the quantity of cells not incorporating amino acid dropped to 21% and the percentage of cells with reduced incorporation reached 15%. The question of the role of protein synthesis in the restoration of nerve cells after their damage is discussed.

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USSR

UDC 576.3:612.017:615.5

YERMAKOVICH, A. P., KORYAKINA, YE. D., and ROZIN, M. A.,

"The Possible Significance of Protein Synthesis in the Repair Mechanism of Nerve Cells After Damage", pp 14-18, Sintez Belka i Rezistentnost' Kletok, (Protein Synthesis and Cell Resistance), Leningrad, "Nauka," 1971, 104 pp

Abstract: By means of vital staining with methylene blue (0.01 %), it was shown that the percentage of damaged parasympathetic nerve cells declined with the passage of time after a 5-minute injury of isolated frogs auricles with distilled water. This process was suppressed by inhibitors of protein synthesis puromycin ($5 \cdot 10^{-5}$ g/ml) and chloramphenicol ($2 \cdot 10^{-5}$ g/ml) and was intensified by dibazol ($1 \cdot 10^{-7}$ g/ml). The role of protein synthesis is observed in the repair mechanism of nerve cells after damage.

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UDC 576.3.612.017.615.5

YERMAKOVICH, A. F.

"A Method of Studying Damaged Nerve Cells by Vital Staining", p 8-11, Sintez Belka i Resistentnost' Kletok, (Protein Synthesis and Cell Resistance), Leningrad, "Nauka," 1971, 104 pp

Abstract: The number of parasympathetic nerve cells damaged by hypotonia in insolated auricles of frogs was determined during vital staining at various times after alteration. A comparison is made of the results of evaluation of damage to nerve cells obtained by means of neutral red and methylene blue. The reduction of the percentage of damaged nerve cells with the passage of time from the moment of alteration was shown using methylene blue.

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1/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CYTOPHOTOMETRIC AND RADIOAUTOGRAPHIC STUDY OF RNA SYNTHESIS IN
CULTURES OF LEUKEMIA CELLS SENSITIVE AND RESISTANT TO COXSACKIE B3 VIRUS
AUTHOR--(05)--KHESIN, YA.E., TKHORZHEVSKIY, V.V., YERMAN, B.A., AMCHENKOVA,
A.M., VORONINA, F.V.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1218-21

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEUKEMIA, COXSACKIE B VIRUS, RNA, BIOSYNTHESIS, TRITIUM,
CHEMICAL LABELLING, AUTORADIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1998/0705

STEP NO--UR/0020/70/190/005/1218/1221

CIRC ACCESSION NO--AT0121364

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0121364

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR CHANGES IN RNA CONTENT OF NORMAL AND SPECIFICALLY RESISTANT LEUKEMIA L69 CELLS AFTER INFECTION WITH HOMOLOGOUS VIRUS. THE RESISTANT CELLS DISPLAY A PECULIAR METABOLISM IN THAT THE INTRACELLULAR DEVELOPMENT OF THE VIRUS IS INTERRUPTED AT AN EARLY STAGE WITHOUT REACHING FULL DEPROTEINIZATION WHILE THE SECONDARY GROWTH OF RNA CONTENT IS NOT ACCOMPANIED BY A RISE OF VIRUS RNA SYNTHETIC ACTIVITY IN THE CYTOPLASM OR CYTOPATHIC CHANGES OF THE CELLS. TREATMENT OF THE INFECTED CELLS BY ACTINOMYCIN FOR 1 HR COMPLETELY INHIBITED NUCLEIC ACID SYNTHESIS SO THAT IN SUBSEQUENT TREATMENT WITH URIDINE PRIME3 H SUBSTANTIALLY NO TAG IS INTRODUCED INTO THE NUCLEI OF THE CELLS. THUS THE PRODUCTION OF MESSENGER RNA FOR THE VIRUS INHIBITOR OF SYNTHESIS OF CELLULAR RNA IS CODED NOT BY THE VIRUS GENOME BUT BY THE CELLULAR GENOME.
FACILITY: INST. EPIDEMIOL. MIKROBIOLOG. IM. GAMALEI, MOSCOW, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PHASE STUDY IN A BISMUTH SESQUIOXIDE MOLYBDENUM TRIOXIDE SYSTEM -U-
AUTHOR--(02)--YERMAN, L.YA., GALPERIN, YE.L.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 868-74
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE ANALYSIS, CRYSTAL STRUCTURE, X RAY ANALYSIS, BISMUTH
OXIDE, MOLYBDENUM OXIDE, PHASE EQUILIBRIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1708 STEP NO--UR/0078/70/015/003/0868/0874
CIRC ACCESSION NO--AP0115537
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BI SUB2 O SUB3-MOO SUB3 SYSTEM WAS INVESTIGATED BY USING AN X RAY DIFFRACTION METHOD. THE OXIDES WERE PREPD. BY CEPPTN. OF BI (NO SUB3) SUB3 AND (NH SUB4) SUB2 MOO SUB4 WITH A SUBSEQUENT BAKING AND FUSING OF THE PPT. THE METHOD OF PREPN. OF THESE OXIDES AFFECTED THE PHASE EQUIL. AND CRYST. STRUCTURE OF THE INDIVIDUAL PHASES. PHASE DIAGRAMS OF SYSTEMS PREPD. UNDER DIFFERENT CONDITIONS ARE GIVEN.

UNCLASSIFIED

USSR

Forming

UDC 669.717:669-42

YERMANOK, M. Z., FEYGIN, V. I.

"Production of Aluminum Alloy Sections"

Moscow, Proizvodstvo profiley iz alyuminiyevykh splavov (cf. English above), Metallurgiya, 1972, 271 pp (from Proizvodstvo profiley iz alyuminiyevykh splavov, pp 2-3)

Translation: The assortment and extrusion systems are presented for the following sections: continuous cross section, hollow and variable cross section of aluminum alloys. A study was made of the characteristic features of flow of the metal and calculation of the force conditions during the extrusion of sections and also the problems of calculation, planning and design of the extruded tool.

The advanced techniques for extrusion, heat treatment, straightening and finishing the sections are described. The primary data with respect to deformable aluminum alloys and also steel for manufacturing the extrusion tool are presented.

This book is intended for engineers of the extrusion shop and the researchers and workers in the branches of industry in which aluminum alloy sections are used. It can be useful to students and teachers at the institutions of higher learning and the specialized secondary schools. There are 69 tables, 148 illustrations and a 137-entry bibliography.

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YERMANOK, M. Z., et al. Prolzvodstvo profiley iz alyuminiyevykh splavov, Metallurgiya, 1972, 271 pp

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YERMANOK, M. Z., et al., Proizvodstvo profiley iz alyuminiyevykh splavov, Metallurgiya, 1972, 271 pp

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Analysis and Testing

USSR

UDC 620.172.25

PERLIN, I. L., YERMANOK, M. Z.

"Methods of Calculating the Indexes of Relative Elongating and Constricting Strains"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Light Alloy Technology. Scientific and Technical Bulletin of the VILS Institute), 1970, No 5, pp 53-54 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I941)

Translation: The ratio of the indexes used to estimate plasticity was investigated. The unfoundedness of applying the "relative constriction" index -- $\psi_i = F_i - F_f/F_i$ -- to estimate the plastic characteristics of finished intermediate products and the expediency of using the "relative uniform constriction" index -- $\psi_{i \cdot equ.} = F_i = F_{neck}/F_i$ -- are demonstrated where F_i and F_f are the initial and final transverse cross sections, F_{neck} is the cross sectional area of the sample at the time of necking. A basis is provided for estimating plasticity by means of the integral strain indexes, in particular, $\ln F_i/F_{neck}$ and $\ln F_i/F_f$.

USSR

UDC 669.716:621.774.38

RUBIN, Yu. L., YERMANOK, M. Z., and SHATKOV, V. A.

"The Effect of Technological Factors on the Friction Stress In Pressing Tubes of Alloys 01915 and 01925"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Manka", 1970, pp 144-149, resume

Translation: The effect of the drawing factor, pressing rate, and temperature on working stresses in pressing tubes of the alloys 01915 and 01925 was investigated. Established quantitative relations make it possible to estimate the effect of temperature and the degree and rate of deformation on the stress magnitude of the metal by the friction on container walls during pressing of the alloys. Six figures, two tables, two bibliographic references.

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1/2 029 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--RESISTANCE OF ALLOYS 01915 AND 01925 TO DEFORMATION FOR, SPECIFIED,
TEMPERATURE AND EXTRUSION RATE CONDITIONS -U-
AUTHOR--(03)-RUBIN, YU.L., YERMANOK, M.Z., SHATKOV, V.A.
COUNTRY OF INFO--USSR
SOURCE--TSVET. METAL. 1970, 43(3), 54-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR.
TOPIC TAGS--ALUMINUM MAGNESIUM ALLOY, ZINC CONTAINING ALLOY, METAL
EXTRUSION, DEFORMATION RESISTANCE, METAL HARDENING, ALLOY DESIGNATION,
DEFORMATION RATE/(U)01925 ALUMINUM MAGNESIUM ALLOY, (U)01915 ALUMINUM
MAGNESIUM ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1417 STEP NO--UR/0136/70/048/003/0054/0056
CIRC ACCESSION NO--AP0126955
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0126955

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AL-ZN-MG ALLOYS 01915 AND 01925 WERE EXTRUDED AT RATES OF 6, 30, 120, AND 360 MM-MIN WITH THE CORRESPONDING AV. RATES OF DEFORMATION $\dot{\epsilon}$ SUB6 EQUALS 6 TIMES 10 PRIME NEGATIVE3, $\dot{\epsilon}$ SUB30 EQUALS 2 TIMES 10 PRIME NEGATIVE2, $\dot{\epsilon}$ SUB120 EQUALS 8 TIMES 10 PRIME NEGATIVE2, $\dot{\epsilon}$ SUB360 EQUALS 24 TIMES 10 PRIME NEGATIVE2 SEC PRIME NEGATIVE1. AT CONST. DEFORMATION DEGREE, PSI (PERCENT), AN INCREASE IN TEMP. AND A DECREASE OF DEFORMATION RATES CAUSES A LOWER RESISTANCE TO DEFORMATION, σ SUBT, AND A DECREASE IN THE INTENSITY OF HARDENING.

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