USSR UDC 616.89-008.44-092.9-07:616.151.5-07

CHERNIGOVSKAYA, S. V., CHERKOVICH, G. M., and UZUNYAN, L. A., Institute of Experimental Pathology and Therapy, Academy of Medical Sciences USSR, Sukhumi, and Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

"The Effect of Severe Emotional Stress on Blood Coagulation System Indexes in Monkeys"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 75, No 3, 1973, pp 29-32

Abstract: Fibrinogen, alpha and beta lipoprotein, free fatty acid, and cholesterol concentration, as well as recalcification and heparin time, prothrombin index, thrombocyte adhesion, and fibrinolytic activity of blood were determined in 2 groups of baboons -- six contols on normal diet and 7 monkeys that had been fed a high cholesterol diet for 3 years -- prior to and during emotional stress induced by violating the cutomary tribal hierarchy (Miminoshvili method) and disrupting the daily feeding routine and the diurnal light-darkness cycle (Cherkovich method). A significant and practically identical rise in fibrogen concentration from an initial 363±36 to 470±37 mg% was observed in both groups during stress, even though the monkeys on a high cholesterol diet had a persistently elevated free fatty acid concentration (1,002 vs. 740 mequ/L).
1/2

USSR

CHERNIGOVSKAYA, S. V.,et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 75, No 3, 1973, pp 29-32

Fluctuations in the other parameters were random and insignificant. It is suggested that a prolonged elevation of fibrinogen concentration may change the permeability of blood vessel walls and promote atherosclerosis and thrombopoiesis.

2/2

USSR

UDC: 669.243.51:661.937

MURASHOV, V. D., CHERMAK, L. L., TOLSTOGUZOV, A. D., CHERNYSHEV, D. P., and REZNIK, I. D.

"Experience on Adopting Oxygen in Shaft Melting of Nickel Sinter at the Yuzhuralnikel' Combine"

Moscow, Tsvetnyye metally, No 3, Mar 72, pp 1-3

Abstract: The use of 24.3% oxygen blast in shaft melting during the first six months of 1971 increased the absolute fusion of the sinter by 13.4% and the per-unit fusion by 22.2% against the 1968 level-prior to oxygen introduction. The per-unit coke consumption dropped by 17%, amounting to 21.9% of the sinter weight. Nickel content in the slags increased from 0.16 to 0.18%, which is ascribed to greater iron contents in the processed ores. The reduction in operating costs through the use of the two new oxygen blast lines (with 23.2% O_2) plus the profit from additional production outputs in the 1969-70 period show yearly savings of one million rubles. (2 tables, 7 bibliographic references).

1/1

AA0040758

C

Chermak, L. L.
UR 0482

3-76

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236010 TREATMENT OF NICKEL AND COPPER-NICKEL MATTES Where to simplify the process and to reduce iron content in the matte to 0.2-0.25, a layer of the latter (0.5m) is cooled in an open mixer from 1150 to 900°C in 1 hour. The method is based on effinity of iron in the matte towards oxides moving to the surface of the matte and a metallic component separating in the form of solid solution crystals. According to the proposed method, ready matte is poured into a stationary open mixer lined with chamotte and held there for 1 hr. The thickness of the melt should be 0.5m. The temp. of the matte is decreased from 1150 to 900°C when solid phases separate out. The oxide phase moves up on the surface of the melt and the metallic phase settles at the bottom of the mixer. After 1 hr, the matte is discharged from the mixer and cast in sand moulds or granulated in water. 21.4.67. as 1152034/22-1.
V.A BOROV'EV et al. (12.6.69.) Bul.6/24.1.69.
Class 40a. Int.Cl. C22b.

LD 18

19750445

AA0040758

AUTHORS: Vorob'yev, V. A.; Salomatin, I. Ye.; Firyago, I. S.; and Chermak, L. L.

19750446

USSR

UDC: 550.34.034.681.142.62

KVASHIN, Ye. V. and CHERMASHENTSEV, S. A.

"Operative System for Seismological Data Input to an Electronic Computer"

Tashkent, Izvestiya Akademii Nauk Uzbekskoy SSR--Seriya Tekhnicheskikh Nauk, No 6, 1973, pp 7-9

Abstract: An important and complex problem is the input of multichannel analog signals into an electronic computer directly from objects under observation, with simultaneous operative processing. The purpose of this article is to consider the input of seismological information continuously, through radio relay channels, into a central processing point equipped with the Minsk-22 computer from four seismic stations in the Tashkent geodynamic polygon. A system for gathering this information and automatically processing it is proposed in this article, together with a diagram and a textual description of the units involved and their interconnection. The units are listed and their functions outlined. It is noted that a working design and mock-ups of the various units of the system have been developed.

1/1

USSR

UDC 669.14.018.8

SVISTUNOVA, T. V., KAZAKOVA, G. V., ANDRUSHOVA, N. V., and CHERNENSKAYA, N. P., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Electrochemical Behavior of Alloys Containing Chromium, Nickel, and Molybdenum"

Moscow, Zashchita Metallov, Vol 7, No 6, Nov-Dec 71, pp 695—698

Abstract: The electrochemical behavior of alloys containing chromium, nickel, and molybdenum, of the system 15% Cr-15% Mo (OOKh15N70M15, OOKh15N65M16V (EP-567), and Kh15N55M15V (EP-375) was investigated in a wide potential interval, depending on the content of C, Si, Fe, and W in the alloy and also on conditions of heat treatment. Diagrams show potentiokinetic polarization curves of the investigated alloys and the anode current dependence on the potential for the third alloy after inducing heating, both in 30% H_2SO_4 at 90°. The first alloy was found to possess the highest corrosion resistance, the third alloy the lowest. With potentials more positive than 0.3 v, potentiostatic curves of Cr-Ni-Mo alloys show an activation zone related to the presence of selectively etching excess phases: the μ-phase in the (EP-567) alloy and carbides of M_6C-type and intermetallic phases of the μ-type in both other alloys. Two illustr., two tables, four biblio. refs.

1/1

Corrosion

USSR

UDC 669.14.018.841.001.5

ANDRUSHOVA, N. V., KAZAKOVA, G. V., SVISTUNOVA, T. V., and CHERMENSKAYA, N. F.

"Influence of Chromium and Molybdenum on Electrochemical and Corrosion Behavior of Ni-Cr-Mo Alloys"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 141-145

Translation: The corrosion and electrochemical behavior of nickel-chromium-molybdenum alloys is studied in 30% H_2SO_4 at 90°C and 10% HCl at 20°C, depending on chromium and molybdenum content.

It is demonstrated that alloying of a nickel alloy with 15% Mo and up to 25% Cr significantly increases corrosion resistance throughout the entire range of potentials studied.

Molybdenum (>10%) improves the corrosion resistance of the nickel alloy with 10% Cr in reducing media and worsens it in oxidizing media. 2 figures; 9 biblio. refs.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--A STUDY ON THE CONDITIONS FOR BIOSYNTHESIS OF UBIQUINONE,8 AND VITAMIN K SUB2 BY SERRATIA MARCESCENS -U-

AUTHOR-(02)-BEZBORODOV, A.M., CHERMENSKAYA, T.S.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 316-321

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOSYNTHESIS, VITAMIN, CULTURE MEDIUM, GLUTAMIC ACID, GLUCOSE, AMMONIUM PHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1415 STEP NO--UR/0220/70/039/002/0316/0321

CIRC ACCESSION NO--AP0054278

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY ON THE CONDITIONS FOR GROWTH OF SERRATIA MARCESCENS 42 AND FOR BIOSYNTHESIS OF UBIQUINONE,8 AND VITAMIN K SUB2 (40) HAS SHOWN THAT OPTIMAL VALUES OF PH FOR FERMENTATION WERE 7.0-9.0. POOR GROWTH OF THE CULTURE AND LOW PRODUCTION OF VITAMIN K SUB2 (40) WERE REGISTERED AT PH 3.0. THE HIGHEST YIELD OF BIOMASS, Q,8 AND VITAMIN K SUB2 (40) WAS FOUND DURING THE STATIONARY PHASE OF GROWTH (THE 2-3D DAYS) WHEN THE MAIN COMPONENTS OF THE MEDIUM HAVE BEEN CONSUMED. CHANGES IN THE CONCENTRATION OF GLUCOSE AND AMMONIUM PHOSPHATE IN THE MEDIUM AFFECTED GROWTH OF THE CULTURE BUT EXHIBITED ALMOST NO EFFECT UPON BIOSYNTHESIS OF Q,8 AND VITAMIN K SUB2(40). MEDIA CONTAINING GLUTAMIC ACID (20-50 G-L) STIMULATED MAXIMAL ACCUMULATION OF BIOMASS AND ITS HIGH PRODUCTIVITY WITH RESPECT TO Q,8 AND VITAMIN K SUB2(40). NO CORRELATION WAS ESTABLISHED BETWEEN CHANGES IN THE RATIO VITAMIN K SUB2(40)-Q,8 AND COMPOSITION OF THE MEDIA OR THE GROWTH PHASE OF THE CULTURE. THE RATIO OF CONCENTRATIONS K SUB2-Q,8 WAS 20-50PERCENT IN DIFFERENT EXPERIMENTS.

UNCLASSIFIED

AA0040757 CHERMENSKIY D.P. 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1970

240724 OXYGEN ROOF LANCE (1) moved by the slide (3) fitted with a fork (4) to clamp the lance in place with keys (5). The carriage (7) rides the guide (10) off the drive (11,12). Depending on the structural aspects of the particular furnace, the roof has a transverse opening 30-50 mm larger than that of the tuyere (lance). The opening is blown right the way along to prevent smoke issue. The moving reaction zone draws in all new portions of metal which have lower temperature and are more identical with the basic mass in terms of chemical composition. It also reduces iron evaporation, or its oxides and so cuts down on dust formation.
19.4.65 as 1003162/22-2. BORSHCHEVSKII.I.K.et al.
I.P. BARDIN FERROUS METALLURGY INST.(14.8.69.)
Bul 13/1.4.69. Class 18b. Int.Cl.C 21c.

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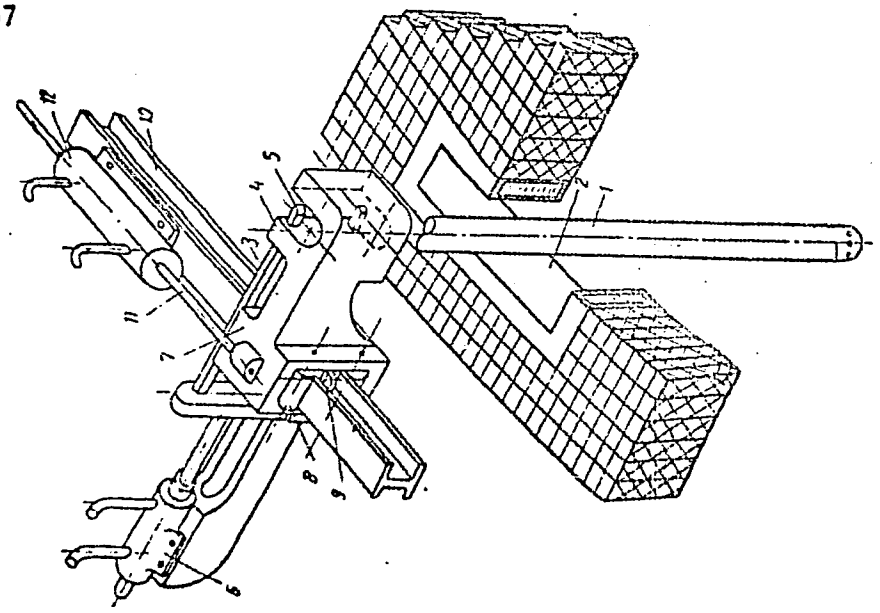
18

19750442

AA0040757



AD

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19750443

AA0040757

AUTHORS: Borshchevskiy, I. K.; Zhelnov, B. S.; Trubetskov, K. M.; Tarasov, V. M.; and Chermenskiy, D. P.

Tsentral'nyy Nauchno - Issledovatel'skiy Institut Chernoy Metallurgii imeni I. P. Bardina

3/3

19750444

1/2 046 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EXCESS PRESSURE IN A PULSED FLUID JET -U-

AUTHOR--CHERMENSKIY, G.P.

COUNTRY OF INFO--USSR

SOURCE--PMTF ZHURNAL PRKLADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI, JAN.-FEB. 1970, P. 174-176

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS.

TOPIC TAGS--JET FLOW, PERIODIC PULSE, FLOW VELOCITY, PRESSURE GRADIENT, HIGH PRESSURE, WATER HAMMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0502 STEP NO--UR/0207/70/000/000/0174/0176

CIRC ACCESSION NO--AP0117736

UNCLASSIFIED

2/2 046 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117736

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE INTERACTION BETWEEN DISCRETE SECTIONS OF A PULSED FLUID JET WITH DIFFERENT VELOCITIES EMERGING FROM A WATER HAMMER. IT IS SHOWN THAT IN A PULSED JET WITH DISCRETE SECTIONS AN EXCESS PRESSURE IS PRESENT, BUT AS THE VELOCITIES ALONG THE LENGTH OF THE JET ARE EQUALIZED THE EXCESS PRESSURE DECREASES AND VANISHES WHEN THE SECTION WITH THE MAXIMUM VELOCITY ENTERS THE JET HEAD.

UNCLASSIFIED

-USSR-

UDC 669.24.42:669.25.42

KHARCHUK, M. D., CHERMENSKIY, V. I., SIDORENKO, R. A., Ural Polytechnic Institute, Department of Semiconductor and Electrovacuum Machine Building

"Desulfurization of Cobalt, Nickel, and Their Eutectic Alloys with Carbon During Crucibleless Zone Melting in a Vacuum"

Ordzhonikidze, Izvestiya vysshikh uchebnykh zavedenii SSSR, Tsvetnaya Metallurgiya, No 3, 1972, pp 47-50

Abstract: A procedure has been developed to obtain superpure cobalt and nickel with respect to sulfur required to study the processes of embossing of graphite in cast iron. The procedure is analogous to that described previously by Chermenskiy, et al. [Izv. AN SSSR, Metally, No 1, 27, 1971]. NKS-0 nickel, KP-1 cobalt, and MGOSCh graphite were used as the initial materials. The sulfur content was controlled by means of the S-35 isotope, additions of which did not exceed (1-2) $\times 10^{-4}$%. The metals were melted at a displacement rate of the liquid zone (f) of 2 mm/min, and the alloys with carbon, 1 mm/min. Figures are presented showing the distribution curves of the sulfur after 1 and 3 passes through zone melting. The effective distribution coefficients of the sulfur, the coefficients and specific rates of its evaporation in each of the materials near their melting points were determined. In the iron subgroup, the distribution coefficients and the specific rates of evaporation of sulfur decrease from

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USSR

KHARCHUK, M. D., et al., Izvestiya vysshikh uchebnykh zavedenii SSSR, Tsvetnaya Metallurgiya, No 3, 1972, pp 47-50

iron to nickel; the sulfur distribution coefficients in the corresponding eutectic alloys with carbon vary analogously. After three passes through crucibleless zone melting in a vacuum, nickel was obtained with a sulfur content of $2 \cdot 10^{-5}$%, and after 5 passes, cobalt containing less than $2 \cdot 10^{-6}$% S.

2/2

CHERMNYKH B.A.

Acc. Nr.: AN0104123 Ref. Code: UR9003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-PURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. AL,PEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IOFFE, M. A. KUPFER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. T. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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Reel/Frame
19870555

Acc. Nr.: AN0104123

"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUS'KO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIR'YANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIMPIYEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYRUTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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Reel/Frame
19870556

KZ

USSR

UDC: 621.396.6.019.3

CHERMOSHENSKIY, V. V.

"Analysis of the Working Capacity of Radio Electronic Equipment by the Method of Extremum Experiments"

V sb. Metody razrab. radioelektron. apparatury, No 1 (Methods of Development of Radio Equipment, No 1--collection of works), Moscow, 1970, pp 168-173 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7V268)

Translation: A two-stage low-frequency amplifier is taken as an example to show application of the method of statistic planning of an experiment to analysis of the reliability of radio electronic equipment with respect to partial failures. The effect of the active elements of the circuit is evaluated by means of a histogram for distribution of conditional parameters. The method can be used to solve problems of assuring equipment reliability in the developmental process. Two illustrations, one table, bibliography of four titles. N. S.

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Reliability Theory

USSR

UDC: 621.3.019.3

FOMIN, A. V., BORISOV, V. F., CHERMOSHENSKIY, V. V.

"Methods of Computer and Experimental Evaluation of the Reliability of Radio Components With Respect to Incomplete Failures"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 212, pp 89-117 (from RZh-Radiotekhnika, May 71, No 5, Abstract No 5A85)

Translation: A comparative analysis is given of the matrix-topological method and the method of statistical planning of an experiment from the standpoint of their use for computer calculation of the reliability of electronic circuits. It is shown that the second method can be used for calculating reliability with respect to incomplete failures when the circuit has no analytical description. Seven illustrations, one table, bibliography of seven titles. N. S.

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USSR

UDC: 621.3.019.3

CHERMOSHENSKIY, V. V.

"Use of the Method of Statistical Planning of an Experiment for Analyzing the Reliability of Radio Components With Respect to Partial Failures"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 212, pp 43-71 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A87)

Translation: The author considers the theoretical premises and practical problems of applying the method of orthogonal statistical planning of an experiment to mathematical description of transistorized analog circuits with regard to nonlinearities. A method is demonstrated for determining the influence factor in the equation for errors. Two illustrations, two tables, bibliography of four titles. N. S.

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USSR

UDC: 51:155.001.57:001

ROMANOVSKIY, Yu. M., STEPANOVA, N. V., CHERNAVSKIY, D. S.

"What is Mathematical Biophysics. (Kinetic Models in Biophysics)"

Chto takoye matematicheskaya biofizika. (Kineticheskiye modeli v biofizike) (cf. English above), Moscow, "Prosveshcheniye", 1971, 136 pp, ill. 23 k. (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V864 K)

Translation: The book popularizes problems of mathematical modeling of biological processes. Principal attention is devoted to modeling of periodic processes in various biological systems -- This is the so-called "biological clock" problem. Some examples of oscillatory systems are considered: oscillations in the dimensions of colonies of cells and cellular nuclei, the intensity of photosynthesis and population of two coexisting species. The method of the modern theory of oscillations is used as the method of study for these examples. The first chapter is devoted to presentation of kinetic governing principles in biology. The second chapter outlines modern mathematical methods of studying dynamic systems: the phase pattern method

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USSR

ROMANOVSKIY, Yu. M. et al., Chto takoye matematicheskaya biofizika. (Kineticheskiye modeli v biofizike), Moscow, 1971

and the method of slowly changing amplitudes. The third chapter is devoted to construction and study of a model of growth of a colony of microorganisms and use of the results of modeling in biological industry. The fourth and final chapter deals with a complex of problems related to periodic processes in various kinetic systems. It is noted that this book will be of use to teachers of physics, biology, chemistry and mathematics, and also in biology circles for pupils. V. Mikheyev.

2/2

USSR

UDC 539.219.3:548.3

LARIKOV, L. N., FAL'CHENKO, V. M., and CHERNAYA, L. F., Institute of Metal Physics, Academy of Sciences UkrSSR

"The Effect of the Type of a Crystal Lattice on the Diffusion Mobility of Atoms in Metals of the Iron Group"

Kiev, Metallofizika, No 31, 1970, pp 75-82

Translation: The effect of the type of crystal lattice on the parameters of volume and boundary diffusion in metals of the iron group and their alloys is examined on the basis of the data available in the literature. It is shown that the difference between the mobility in α- and γ- iron is much greater than among the mobility in close-packed cubic modifications of β-iron, nickel, and γ-cobalt during the extrapolation of their values to the same temperature. In general, this conclusion also extends to the diffusion of other elements in these metals. The type of crystal lattice has a marked effect on the parameters of volume self-diffusion and has a weak effect on the mobility of atoms along grain boundaries.

Bibliography: 48 entries, 12 illustrations.

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USSR

UDC: 539.216.22:546.289

KLIMENKO, A. P., MATVEYEVA, L. A., TKHORIK, Yu. A., CHERNAYA, N. S., Institute of Semiconductors, Academy of Sciences of the UkrSSR

"Investigation of Vacuum Condensates of Germanium on Insulating Substrates"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika, Resp. Mezhved. Sb., No 7, 1972, pp 41-47

Abstract: A comprehensive study is made of the electric (conductivity and Hall effect over a broad temperature range), optical (infrared spectrum in the 5-15 μ region and the natural absorption edge), surface (stationary and impulse field effects) and structural properties of germanium films on semi-insulating gallium arsenide and ferroelectric $Ba_xSr_{1-x}TiO_3$. An investigation is made of the influence which certain technological factors, the thickness of the film and the type of substrate have on its above mentioned properties. The authors discuss the possibility of existence of an impurity band formed by deep acceptor levels in germanium films.

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USSR

UDC 632.95

VERDEREVSKIY, D. D., VOYTOVICH, K. A., KORZOV, F. N., KHLICHAM, T. B., and CHERNAYA, N. S.

"Copper Naphthenate Paste -- a Substitute for Bordeaux Mixture in Controlling Apple Tree Scab"

Tr. Kishinev. S.-kh. in-ta (Works of Kishinev Agricultural Institute), 1971, 67, pp 32-34 (from RZh-Khimiya, No 1(II), Jan 72, Abstract No 1N431

Translation: In comparative tests, quadruple spraying of an apple orchard with a 0.6% suspension of copper naphthenate paste was only slightly less effective against scabs on the fruit and leaves than the same application of a 1% solution of Bordeaux mixture. P. Popov.

1/1

- 52 -

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PYROGALLOL COMPLEXES OF VANADIUM V IN METHANOL -U-

AUTHOR-(02)-CHERNAYA, N.V., SHNAYDERMAN, S.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 495-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--VANADIUM COMPLEX, SPECTROPHOTOMETRIC ANALYSIS, METHANOL, ION EXCHANGE RESIN, BENZENE DERIVATIVE, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0012 STEP NO--UR/0075/70/025/003/0495/0499

CIRC ACCESSION NO--AP0132312

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132312

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX FORMATION OF V(V) WITH PYROGALLOL IN A MEOH MEDIUM WAS STUDIED SPECTROPHOTOMETRICALLY. PHYS. CHEM. PROPERTIES OF THE COMPDS. WERE INVESTIGATED. THE COMPLEX FORMATION PROCEEDS IN STAGES. THE COMPN. OF THE COMPDS. WAS FOUND BY THE ISOMOLAR SERIES AND LIMITED LOGARITHMIC METHODS. THE RATIO OF V TO PYROGALLOL (H SUB2 PG) IN THE COMPDS. IS 1:1 AND 1:2. THE ANIONIC NATURE OF THE COMPLEXES WAS ESTABLISHED BY EXTS. ON ELECTROMIGRATION AND WITH ION EXCHANGE RESINS. THE APPROX. INSTABILITY CONSTS. FOR THE SIMPLEST COMPLEX (VO SUB2 PG) IN MEOH AND IN AQ. MEOH MIXTS. WERE CALCD. THE COMPLEX STABILITY INCREASES WITH INCREASING MEOH CONTENT IN THE SOLN. FACILITY: KIEV POLYTECH. INST., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 621.357.7:669.15'(24(083.8)

NEVSKIY, O. B., NESTEROV, P. V., and CHERNAYENKO, M. P.

"Electrolytic Plating of Nickel-Iron Alloy of Permalloy Type"

USSR Author's Certificate No 324305, Filed 7 Mar 69, Published 16 Mar 72 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), Abstract No 23L264P by M. V. Ivanov)

Translation: In order to achieve the electrolytic plating of Ni-Fe alloy of uniform chemical composition, the suggested process should be conducted in a hermetically closed contained in Ar atmosphere while the electrolyte is turbulently mixed. The best results are obtained at Reynolds numbers 2500-10,000, 50-65°C, D_c 100-200 ma/cm^2. The electrolyte contains (g/liter) $FeSO_4$ 5-7, $NiSO_4$ 300-360, H_3BO_3 25-30, saccharin 0.2-0.8, citric acid up to 3, and pH 2.7-3.0. The suggested method makes it possible to obtain Ni-Fe films characterized by the following parameters: coersive force 150-200 a/m, anisoptopy field 80-120 a/m, axis slope of light magnetization $\leq 1.5^o$.

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CHERNAYENKO, T. D.

Sanitary Admin.

INTENSIFICATION OF STATE SANITARY SUPERVISION IN THE USSR

UDC: 351.77(47+57)

[Article by T.D. Chernayenko, Main Sanitary and Epidemiological Administration of the USSR Ministry of Health; Moscow, Sovetskoye zdravookhraneniye, Russian, No 10, 1972, submitted 13 April 1972, pp 8-12]

The measures administered in the last few years to improve the sanitary and epidemiological service (SES) resulted in strengthening its organizational bases and material-technical base and implemented practical use of scientific and technological achievements; they also improved the struggle against epidemics and raised significantly the level of state sanitary inspection.

Much has been done for better organization and performance of sanitary work. The necessary scientific research has been done in this area, and there has been activation of the fight against infectious disease, and this afforded some success in prevention thereof.

Development and practical application of scientific principles of mass propaganda of medical and hygienic information was largely instrumental in improving the sanitary standards of the people.

All this was provided by the daily implementation of complex measures assuring sanitary welfare in the country, with the participation of the public health service and other agencies.

The decree of the USSR Council of Ministers, No 1107, dated 29 October 1963, "On State Sanitary Supervision in the USSR" defined the tasks and content of activities of the SES consistent with the established area of supervision and methods and form of work adopted at that stage.

In accordance with this decree, the legal principles for operation of SES were defined, as well as the specialized subdepartments and specialists of SES [sanitary and epidemiological stations]. Measures were also adopted with respect to broader use of public elements in the activity of the SES; this applied, in particular, to better training and work of public health inspectors who constitute the specialized active element of SESs and organization of the work of public and laboratory councils.

JPRS 57493
13 Dec 72

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USSR

UDC 612.013.1.014.43.014.461

POKROVSKIY, V. I., BULYCHEV, V. V., LISYKOV, T. Ye., MALEYEV, V. V., UTEKHIN, V. A., CHERNAYEVA, T. Ye., MAYOROV, Yu. M., MILOVIDOVA, S. S., and KAFAROV, K. A., Central Department of Infectious Pathology, Scientific Research imeni N. N. Pirogova, Institute of Epidemiology, Ministry of Health USSR, and chair of Hospital Therapy, Evening Faculty, Second Moscow Medical Institute, and Chair of Hygiene, State Central Institute for Physical Culture

"Effect of Dehydration and Hyperthermia on Homeostasis in Healthy Persons"

Moscow, Sovetskaya Meditsina, No 2, 1973, pp 27-31

Abstract: Blood chemistry and cardiovascular changes were studied in 20 healthy males aged 18 to 32 before and after staying various lengths of time in a sauna bath (15 to 30 and 35 to 55 minutes of exposure to temperatures of 80 to 100° and humidity of 8%). In those who remained in the sauna 15 to 30 minutes, hyperthermia resulted in hyperfunction of the heart, slowing of the blood flow, elevation of the pH and pressure of venous blood, increase in serum proteins and in the specific gravity and viscosity of blood, decrease in clotting time, loss of chlorine and potassium. In the group that remained in the sauna over 35 minutes, dehydration caused a loss of electrolytes (chiefly chlorine and potassium) with urine, cardiac hypofunction, slowing of the blood

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USSR

POKROVSKIY, V. I., et al., Sovetskaya Meditsina, No 2, 1973, pp 27-31

flow, decrease in venous and arterial blood pressure, shortening of clotting time, and increase in blood proteins, specific gravity, viscosity, and pH. The biochemical changes in both groups were within physiological limits and had no lasting effects. These findings can be used to determine disruptions of homeostasis, evaluate alterations in water-salt metabolism, acid-base equilibrium, etc. in infectious patients, and assess the efficacy of therapy, particularly in gastrointestinal diseases.

2/2

USSR

UDC 621.372.5/.6

CHERNE, Kh. I.

"The Problem of Energy Relations in a Linear Nonautonomous 2(m+m) Terminal Circuit"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi, 1970 g. Vyp. 1 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute, 1970, vyp. 1), Leningrad, 1970, pp 62-68 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A187)

Translation: The problem of calculating the voltage created by any number of oscillators in any of several receivers connected with the indicated oscillators by means of linear nonautonomous multiple terminal network given by the transfer matrix T is solved.

1/1

USSR

UDC: 621.372.832

MALORATSKIY, L. G. and CHERNE, Kh. I.

"Loop Systems for Adding Generator Power"

Kiev, Izvestiya VUZ SSSR--Radioelektronika, No 9, 1972, pp 1105-1113

Abstract: Asserting that the output power of uhf oscillators can be added by miniaturized directional couplers, the authors discuss the advantages of double-loop couplers used for this purpose, and investigate the addition of the output power of two and four uhf oscillators through the use of such devices. The basic circuit for the addition of two uhf oscillators by a double-loop coupler is given and its theory of operation developed. A table by which the synchronizing signals input to the oscillators can be easily determined given the reflection coefficients in the branches of a three-decibel direction coupler circuit is reproduced. Some particular cases of the addition of four-oscillator outputs are examined, and the conditions for optimal summation of power outputs are established. The proper sequence of steps in the construction of power summation systems is also indicated.
1/1

USSR

UDC: 621.372.5

CHERNE, Kh. I.

"Wave Treatment of the Phenomena in a Four-Terminal Network"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Transactions of the Communication Education Institutes. Ministry of Communications, USSR) 1970, No. 48, pp 165-172 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A165)

Translation: Formulas are obtained for the elements of a four-terminal network dispersion matrix. Resume

1/1

Aluminum and Its Alloys

USSR

UDC 669.788:(669.715+669.018.28)

CHERNEGA, D. F., and BYALIK, O. M.

Vodorod v Liteynykh Alyuminiyevykh Splavakh (Hydrogen in Aluminum Alloy Castings) "Tekhnika" Publishing House, Kiev, 1972, 148 pp

Translation of Foreword: Directives of the 24th Congress of the CPSU provide for a 50-60% increase in aluminum production during the 1971-1975 5-year plan for the development of the economy of the USSR. The greatest amount of the aluminum will be used for the production of aluminum alloys.

Low specific weight, good thermal and electrical conductivity properties, and the relatively high mechanical properties of aluminum alloys are responsible for their wide application in the national economy.

The casting properties of aluminum alloys make it possible to produce items which would be uneconomical to produce by mechanical means or would be altogether impossible to make by any other means. Thus, the necessity for a considerable increase in the production of aluminum alloy castings. Along with the increased demand for castings is the requirement that they be of high quality. The quality is determined to a large extent by the concentration of harmful impurities in the aluminum alloy, especially of hydrogen.

The purpose of the present brochure is to systematize the work of the authors and other researchers on the role of hydrogen in the production of

USSR

CHERNEGA, D. F. and BYALIK, O. M., Vodorod v Liteynykh Alyuminiyevykh Splavakh, "Tekhnika" Publishing House, 1972, 148 pp

aluminum alloy castings. It was impossible in the limited space of this booklet to elucidate in detail many of the problems mentioned in the materials presented. However, this shortcoming is made up by giving references to the original works and monographs. The authors hope that the material presented in this booklet will be useful to specialists dealing with the production of aluminum castings.

The authors thank Doctor of Technical Sciences K. I. VASHCHENKO for consulting in the work and Doctor of Technical Sciences V. V. ZHIZHCHENKO for his comments during preparation of the manuscript.

Translation of Table of Contents:

USSR

CHERNEGA, D. F. and BYALIK, O. M., Vodorod v Liteynykh Alyuminiyevykh Splavakh, "Tekhnika" Publishing House, 1972, 148 pp

USSR

CHERNEGA, D. F. and BYALIK, O. M., Vodorod v Liteynykh Alyuminiyevykh Splavakh, "Tekhnika" Publishing House, 1972, 148 pp

4/4

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EXPRESS DETERMINATION OF HYDROGEN CONTENT IN ALUMINUM SILICON ALLOYS UNDER PRODUCTION CONDITIONS -U-

AUTHOR-(04)-VASHCHENKO, K.I., CHERNEGA, D.F., BYALIK, O.M., REMIZOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP 52-55

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HYDROGEN, METAL CONTAINING GAS, GAS CONTAINING METAL, ALUMINUM ALLOY, SILICON ALLOY, LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1321 STEP NO--UR/0418/70/000/001/0052/0055

CIRC ACCESSION NO--AP0123280

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0123280
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A UNIT WAS DEVELOPED WHICH MAKES IT POSSIBLE TO DETERMINE HYDROGEN CONTENT IN LIQUID ALUMINUM ALLOYS IN 40-50 SECONDS. MEASUREMENT ERROR CONSTITUTES 5-7PERCENT.

UNCLASSIFIED

USSR

UDC: 620.179.05: 538.54.083.8

TRILISSKIY, V.M., MALINKA, A.V., SOSNINA, L.L., YURCHENKO, S.V., SOSNOVSKIY, M.I. and CHERNEY, L.I.

"Automatic Eddy-Current Installation for Control of Continuity, Diameter and Wall Thickness of Seamless, Stainless Pipes"

Sb. Electromagnit. methody nerazrushayushch. Kontrolya (Symposium on Electromagnetic Methods of Nondestructive Control) Minsk, Nauka i Tekhnika Publishing House, 1971, pp 139-142 (from Referativnyy Zhurnal-Metrologiya i Izmeritel'naya Tekhnika, No 8, 1972, Abstract No 8.32.224)

Translation: An automatic installation to detect defects, and to measure the wall thickness and the outside diameter of seamless, cold-drawn, stainless pipes of 6-12 mm diameter is described. The basic part of the automatic installation is the control system, including the servo-mechanism, common circuits, centering and drawing mechanisms, electronic analyzing blocks and actuator mechanisms. The control

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TRILISSKIY, V. M., et al., Sb. Electromagnit. methody nerazrushayushch. Kontrolya, 1971, pp 139-142

system includes also a mimic bus consisting of several MTx-90 tubes and making it possible to monitor the operation of the mechanisms and instruments. The electronic part of the control system makes it possible to detect separately the external and internal defects, the deviations of the wall thickness and mean diameter. The instruments are set according to calibrating devices. Two indicating blocks contain an electronic radiation tube with rotary scanning, synchronized with the rotation of printed pickups. The line is handled by a single operator. The pipes pass through an automatic control device. The defects are marked with dye. The pipe ends are marked by means of an electric arc device. After marking, the pipes are sorted into containers.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--SODA FREE PROCESS FOR REMOVING SCALE FROM EVAPORATORS -U-

AUTHOR-(05)-SHCHEGOLEV, V.N., CHERNEGOVA, I.K., SUPRUNCHUK, V.K., AVDEYEVA, A.V., VDOVENKO, I.D.
COUNTRY OF INFO--USSR

SOURCE--SAKH. PROM. 1970, 44(5), 16-19

DATE PUBLISHED-------70

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

TOPIC TAGS--CORROSION INHIBITOR, HYDROCHLORIC ACID, SODA ASH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605046/D12 STEP NO--UR/0339/70/044/005/0016/0019

CIRC ACCESSION NO--AP0143163
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0143163
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PROCESS CONSISTS OF CIRCULATING AQ. 5-10PERCENT HCL CONTG. 0.5-1PERCENT OF AN INHIBITOR, E.G., A DIALKYLDIMETHYLAMMONIUM CHLORIDE, THROUGH THE EVAPORATOR IN A SPECIAL WAY FOR LESS THAN OR EQUAL TO 5 HR AT 60DEGREES. THIS METHOD REMOVES MORE SCALE AND DRASTICALLY REDUCES THE AMT. OF CORROSION. AN APP. IS DIAGRAMMED AND ITS OPERATION IS DESCRIBED, INCLUDING THE OPTIMUM CONDITIONS FOR CARRYING OUT THE PROCESS. THE PROCESS IS BEING USED IN MANY SUGAR FACTORIES. FACILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

1/3 024 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--STRUCTURE OF SURFACE LAYERS AND ITS EFFECT ON THE PROPERTIES OF TRANSFORMER STEEL -U-

AUTHOR-(05)-GRIGURKIN, V.I., MOSKALEVA, L.N., MEDVEDEVA, N.N., ZEMSKIY, S.V., CHERNENILOV, M.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 297-301

DATE PUBLISHED--------70

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

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, ELECTRON MICROSCOPY, METAL ROLLING, TRANSFORMER STEEL, SILICON ALLOY, METAL SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1932 STEP NO--UR/0048/70/034/002/0297/0301

CIRC ACCESSION NO--AP0115743

UNCLASSIFIED

2/3 024 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115743

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPN. AND STRUCTURE OF SURFACE LAYERS AND THE INCIDENCE OF SURFACE IMPURITIES IN TRANSFORMER STEEL STRIP AT VARIOUS STAGES OF MANUF. WERE STUDIED TO DET. THE LONGITUDINAL AND TRANSVERSE DISTRIBUTION OF THE SURFACE FILM ON THE STRIP AND TO FIND MEANS FOR IMPROVING INTEROPERATION DESCALING. LAB. AND INDUSTRIAL SCALE TESTS WERE MADE ON 70 FURNACE HEATS; THE STRIP SPECIMENS WERE EXAMD. CHEM., METALLOGRAPHICALLY, BY X RAY DIFFRACTION, ELECTRON MICROSCOPY, AND RADIOISOTOPES. FAYALITE WAS THE CHIEF COMPONENT OF THE SURFACE LAYER RESPONSIBLE FOR DIFFICULTIES IN CHEM. DESCALING. FOLLOWING ROLLING FROM 2.5 TO 0.6 MM, THE SURFACE LAYERS CONTAINED C3-10, SIO SUB2 1-7, FE SUB2 O SUB3 0.8-1.0, AND FE 82-90PERCENT. THE AMT. OF SCALE AFTER ROLLING DEPENDED ON THE CONSTITUTION OF THE DESCALED SURFACE, AND CONSTITUTED IS SIMILIAR TO 0.65 G-M PRIME2 AFTER THE 1ST COLD ROLLING AND IS SIMILIAR TO 2.85 G-M PRIME2 IN THE FINISHING STAGE. A METALLOGRAPHIC ANAL. OF SPECIMENS SUBJECTED TO HIGH TEMP. ANNEALING IN H, N, AND A VACUUM SHOWED THAT, REGARDLESS OF THE ANNEALING ATM., THE THICKNESS OF THE SURFACE LAYERS WAS 6-80 AND 4-36 MU AT THE EDGES AND IN THE MIDDLE OF THE STRIP, RESP. IN THE ABSENCE OF AN OXIDE SURFACE LAYER THE MAGNETIC INDUCTION WAS 19,200-19,500 G WHILE IN THE PRESENCE OF A THICK LAYER IT WAS SIMILIAR TO 18,700 G. A MATH. ANAL. OF THE DISTRIBUTION CURVES OF C CONCN. IN THE METAL AND IN THE OXIDE LAYER SHOWS THAT THE RATE OF C DIFFUSION (OWING TO A DECARBURIZING ANNEAL) IN THE LAYER AT VARIOUS TEMPS. WAS A FACTOR OF 10 PRIME3 TO 10 PRIME6 LESS THAN THOSE IN THE FESI ALLOY.

UNCLASSIFIED

3/3 024 UNCLASSIFIED PROCESSING DATE--090CT70
CIRC ACCESSION NO--AP0115743
ABSTRACT/EXTRACT--FACILITY: LIPETSK, FILIAL MOSK. INST. STALI SPLAVOV, LIPETSK, USSR.

UNCLASSIFIED

USSR

UDC: 681.3.06:51

STOYANOVSKIY, V. A., CHERNENKO, A. A.

"Inverse Search"

Tr. 3 Zimn. shkoly po mat. programmir. i smezhn. vopr., 1970, vyp. 3 (Works of the Third Winter School on Mathematical Programming and Related Problems, 1970, No 3), Moscow, 1970, pp 601-604 (from RZh-Matematika, No 11, Nov 71, Abstract No 11V819)

Translation: The following problem of inverse search is considered: To find in a system of patents those patents whose content satisfies a given request. The request is stated as a logical formula where the operands are the names of certain classes which tag the content of the patent. Such classes are called descriptors. An algorithm is given fo. calculating the logic formula of a request. V. Mikheyev.

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USSR

UDC: 681.3.06:51

STOYANOVSKIY, V. A., CHERNENKO, A. A.

"Inverse Search"

Tr. 3 Zimn. shkoly po mat. programmir. i smezhn. vopr., 1970, vyp. 3 (Works of the Third Winter School on Mathematical Programming and Related Problems, 1970, No 3), Moscow, 1970, pp 601-604 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V819)

Translation: The following problem of inverse search is considered. To find in a patent system those patents whose content satisfies a given demand. The demand is presented in the form of a logical formula. The operands in this formula are the names of certain categories which give the content of the patent. An algorithm is presented for calculating the logical formula of the demand. V. Mikheyev.

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USSR

UDC 621.791.756.011

KOPMAN, YA. YU., NOVIKOV, YU. K., and CHERNENKO, I. A. (Electric Welding Institute imeni YE. O. PATON, Academy of Sciences Ukrainian SSR)

"Characteristics of Electrode Metal Transfer in Slag Welding With a Titanium Electrode of Large Cross Section"

Kiev, Avtomaticheskaya svarka, No 4, Apr 72, pp 29-30

Abstract: The objective of the study was to determine the effect of plate electrode feed rate, voltage, and slag bath depth on the transfer rate and the dimensions of electrode metal droplets. The base metal involved in the study was VT1 alloy with a 40-mm edge thickness, and the plate electrode metal was from the same titanium alloy and measured 35 x 8 mm in cross section. AN-T4 flux was used for preparing the slag bath. The optimum plate electrode feed rate for refining the weld metal is shown to be at about 4.2 m/hr. The nature of metal transfer in plate-electrode welding is governed primarily by the interphase tension at the droplet-electrode boundary and the force of gravity. (1 illustration, 2 bibliographic references)

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200530004-5"

Acc. Nr.: AP0047041 Ref. Code: UR0122

USSR UDC 621.787.4-181.2

CHERNENKO, N. T., Engineer, BELKIN, M. YA., Candidate of Technical Sciences and SLYUSARENKO, V. N., Engineer

"Strengthening of Large-Scale Machine Components by Surface Hardening" (Experience of the Staro-Kramatorsk Machine Tool Plant imeni Ordshonikidze)

Moscow, Vestnik Mashinostroyeniya, No 1, 1970, pp 42-44

Abstract: Investigations on the efficiency of surface hardening of large scale machine components, and on the effect of scale factor for a wide variety of parts made of carbon and alloy steels, are described. They were conducted jointly by the Staro-Kramatorsk Machine Tool Plant and the Central Scientific Research Institute of Technology and Mechanical Engineering. The Techniques of hardening by rolling used for each type of components are presented. The efficiency of strengthening the machine components with chamfers, press fits, key ways etc, and components

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Reel/Frame
19790480

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AP0047041

subjected to alternating loads was substantiated by the results of tests, which are presented in tables, in the form of the endurance limit and the effective coefficient of stress concentrations. It is stated that the examples of the application of strengthening technology presented here give an idea of the incorporation of this progressive technology at the plant, while investigations are conducted, at present time, for substituting the hardening of large scale machine components by cold plastic deformations for the laborious thermal hardening. Original article has 2 tables.

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87

19790481

USSR UDC: None

PLAKHOV, A. M., CHERNENKO, O. D., MALKOV, A. I., KOSTYUCHENKO, V. I., LYSENKO, V. S., SURKOV, N. I., KIRPICHNIKOV, V. A., SMIRNOV, I. A., and SAVCHENKO, L. I.

"A Device for Ultrasonic Defectoscopy"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrastsy, tovarnye znaki, No 4, 1973, p 98, No 363912

Abstract: The distinctive system in this device is one in which the sensor searching for the defects is mounted between rollers fixed to the lower side of the transmitting device, and is thus free to move around the workbench. A diagram of the mechanical arrangement, which improves the productivity of the device and its control, is given.

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USSR

UDC 669.187.2

MALINOVSKIY, YE. I., IOFFE, I. M., CHERNENKO, V. V., and TROYAN, S. G., Ukrainian Scientific Research Institute of Special Steels

"Quality of a Structural Steel Produced Using Silicon-Containing Tailings"

Moscow, Stal', No 9, Sep 73, pp 808-809

Abstract: The authors melted a structural steel type 25KhSNVFA having a sulfur and phosphorus content less than or equal to 0.010 and 0.015%, respectively, in a 60-ton electrofurnace using silicon-containing tailings and partial oxidation of the bath with oxygen. It was found that in the remelting of the alloyed tailings (containing Si, W, etc.) the removal of P and nonmetallic inclusions is hindered without boiling but this shortcoming can be compensated by an argon blow in the ladle (8-10 minutes per consumption of 0.25-0.5 m^3/t of steel and a metal temperature of 1590-1610° C prior to the blow). With the use of 50-70% alloyed tailings in the charge, steel type 25KhSNFA, containing less than 0.015% P was produced by this technology. Without the refining argon-gas blow of the required level the purity of the steel, as to nonmetallic inclusions, cannot be achieved. V. I. MORDVINTSEV, I. S. PASYNKOV, V. P. POTAPOVA, and M. I. GRINER Participated in this work. Two tables, six bibliographic references.

Thin Films

USSR UDC 546.47:537.311.31

KENIGSBERG, N. L., and CHERNETS, A. N.

"Conductivity of Zinc Oxide Thin Films"

Moscow, Neorganicheskiye Materialy, Vol 10, No 1, Jan 74, pp 167-170

Abstract: A study was made of the effect of annealing and alloying on the conductivity of ZnO thin films produced by vacuum sublimation of zinc oxide and deposition on unheated dielectric amorphous (glass) and single-crystal (mica, and polished surfaces of ruby and sapphire) substrates. These thin films possessed high conductivity, and tests were conducted to lower it by annealing at different temperatures in air and different gases (helium, nitrogen) and by alloying with copper. Conductivity was most effectively lowered by heating in air, with the lowest values achieved after annealing at 700° C which was not much lower than after annealing at 450° C (the next lower temperature used). The investigated films were used as hypersonic transformers. Measurements of loss in conversion η were conducted at 2.3 Ghz. In films with a conductivity greater than 10^{-2} $ohm^{-1}cm^{-1}$ η is greater than 60 db. A lowering of conductivity by an order of one to two magnitudes decreases η to 15-20 db and alloying with copper lowers the loss to 6-10 db. V. M. KOSHKIN reviewed the results. Three figures, ten bibliographic references.
1/1

1/2 041 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EXCITATION OF HYPERSOUND IN THE MILLIMETER RANGE -U-

AUTHOR-(03)-GANAPOLSKIY, YE.M., KISELEV, R.V., CHERNETS, A.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, APR. 11, 1970, P. 1015-1017

DATE PUBLISHED--11APR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITATION ENERGY, HYPERSONIC FLOW, QUARTZ, SINGLE CRYSTAL, LIQUID HELIUM, TEMPERATURE, ELECTROMAGNETIC WAVE OSCILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0321 STEP NO--UR/0020/70/191/000/1015/1017

CIRC ACCESSION NO--AT0127902

UNCLASSIFIED

2/2 041 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0127902

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF EXPERIMENTS IN WHICH IT PROVED POSSIBLE TO EXCITE LONGITUDINAL AND TRANSVERSE HYPERSONIC WAVES WITH A FREQUENCY OF 75 GHZ IN A QUARTZ SINGLE CRYSTAL AT LIQUID HELIUM TEMPERATURE. THE RESULTS WERE OBTAINED WITH THE AID OF A METHOD PROPOSED BY GANAPOL'SKII AND CHERNETS (1963) IN WHICH HYPERSONIC WAVES ARE EXCITED BY MEANS OF AN ELECTROMAGNETIC DELAYED SURFACE WAVE. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT RADIOFIZIKI ELEKTRONIKI, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

USSR UDC 535

CHERNETS, A. N., TIMCHENKO, A. I., and SILIN, V. V., Institute of Radiophysics and Electronics, Academy of Sciences UkrSSR, Khar'kov

"Mandelstam-Brillouin Scattering of Coherent Light in Coherent Hypersound"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 4, Apr 71, pp 678-680

Abstract: The possibility of the practical use of the phenomenon of Mandelstam-Brillouin scattering for processing information applied to a modulated sound wave excited in an acoustic line of a radar signal, to produce delay lines for radio signals and lines for compression of radio pulses, etc., is discussed. It is noted that the intensity of the scattered light is an essential factor in such applications of this scattering. Ordinarily, gas lasers are used as the light source; but the intensity of a scattered light is small, and new materials characterized by a higher Q are being studied to raise this intensity; for example, lithium niobate. A further rise in the intensity of scattered light is still important, and one possible way suggested for solving this problem is to use a ruby laser as a light source. Since various nonlinear effects are known to arise in powerful light fluxes, a study was made of the range of powers in which the linearity of the Mandelstam-Brillouin effect is preserved under irradiation of a lithium

USSR

CHERNETS, A. N., et al, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 4, Apr 71, pp 678-680

niobate single crystal. The experimental setup is described. The ruby laser was modulated with a device consisting of a Pockels-effect cell and a KC-19 shutter. This made it possible to ensure time control of the pulses and a small spectral width of the radiation line, which was 0.01 Å. The light flux had an intensity of $3 \cdot 10^6$ w and the pulse length was 10^{-7} sec. The lithium niobate crystal had dimensions 18 x 6 x 6 mm, and longitudinal hypersonic waves were excited in it by the resonator method at a frequency of 900 MHz. The experiment showed that the linear dependence between the intensities of the scattered and incident light as maintained in the range of light energy densities from 1 to $3 \cdot 10^6$ w/cm^2 in the case of lithium niobate. The scattered light intensity achieved was 500 w. The sound intensity in the lithium niobate crystal was calculated to be 10^{-3} w.

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USSR UDC 533.99

CHERNETSKIY, A.V., RYCHKOV, B.A., TEMEYEV, A.A.

"Investigation Of Low-Frequency Oscillations In Power Plasmatrons"

V sb. Vopr. fiz. nizkotemperaturn. plasmy (Problems Of The Physics Of Low Temperature Plasma--Collection Of Works), Minsk, "Nauk. i tekhn.," 1970, pp 566-570 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A339)

Translation: The mechanism is considered of the formation of magneto-sonic waves in plasma and the coupling of them with oscillations in the exterior circuit. The effect is investigated of oscillations at the parameters of the plasma source. Circuits are considered which make it possible to investigate the oscillations in the regions adjacent to the electrodes, for improvement of certain characteristics of the plasmatron. 2 ill.

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USSR

UDC: 51

SOBOLEV, Yu. S., CHERNETSKIY, V. I., ARKHAROV, V. I.

"Concerning Refinement of an Algorithm Which Yields a Quasioptimum Solution for a Problem of Selection"

Tr. Sev.-zap. zaoch. politekhn. in-ta (Works of the Northwest Polytechnical Correspondence Institute), 1971, No 14, pp 13-16 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V434)

[no abstract]

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USSR

UDC 632.95

MOSKOVETS, S. N., KOVALENKO, A. G., CHERNETSKIY, V. P., Institute of Microbiology and Virusology imeni Academician D. K. Zabolotnyy

"A Method of Synthesizing a Complex of Physiologically Active Substances and Yeasts"

USSR Author's Certificate No 302368, filed 19 Jan 70, published 7 Oct 71 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N443)

Translation: To obtain a complex of physiologically active substances from yeasts which is better than Candida tropicals 1b and C. arborea KAM-1 in inhibiting the tobacco mosaic virus and the X-virus of potatoes, a culture fluid which has been pre-treated to remove yeast cells or yeast extract is concentrated to 1/10 the initial volume by vaporization under vacuum at 45°C or less and then centrifuged for 3-4 hours. The precipitate is discarded, and mztter is precipitated from the supernatant liquid with 80% ethanol. The precipitate dissolved in water at 45°C or less is treated with ribonuclease (30 μ g/ml in 100 M NaCl, 2 hours at 25°C), then for 30 minutes with phenol (1:1) or with a phenol-chloroform mixture (9:1). The reaction mixture is centrifuged at 3000 G for 45-50 minutes, the phenol phase is discarded, and the aqueous phase is dialyzed through cellophane against water for more than 43

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MOSKOVETS, S. N., et al., USSR Author's Certificate No 302368, filed 19 Jan 70, published 7 Oct 71

hours. The inhibitor is reprecipitated from the dialyzer 2-3 times with 80% ethanol, and then with anhydrous ethanol, washed with an ethanol-ether mixture (1:1), and with ether, and then dried under vacuum.

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USSR

CHERNETS'KYY, V. P.

"Synthesis of Antimetabolites of Nucleic Acid Metabolism and Their Application in Chemical Therapy of Molecular Diseases"

Kiev, Vestnik Akademii Nauk Ukrainskoy SSR, No 8, 1971, pp 30-41

Abstract: The importance of research on molecular bases of life processes is widely recognized, particularly in the areas of interface of biological sciences with other branches such as biochemistry, with emphasis on the biosynthesis of proteins, nucleic acids, and other organic substances effective in combating malignant tumors, virus infections, diseases of the nervous system, and the like. Particularly promising are the newly acquired methods of controlling activities of nucleic acids in various kinds of molecular diseases. Some of the agents are already in use, e.g. fluorouracil, cytosine arabinoside, mercaptopurineriboside, to name a few. It is expected that components of nucleic acid in particular, the nucleic antimetabolites will play an ever increasing role in the future.

The purpose of the research reported was first of all to study and synthesize antimetabolites of nucleic acid metabolism - the derivatives and the analogs of monomeric components of nucleic acids and of related compounds.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200530004-5"

USSR

CHERNETS'KYY, V. P., Vestnik Akademii Ukrainskoy SSR, No 8, 1971, pp 30-41

Many new anomalous nucleosides with a wide spectrum of biolocal activities were synthesized. Their structure and properties were tested by various methods, including organic analysis, ultraviolet, infrared, and chromatographic spectroscopy. Nuclear magnetic resonance spectroscopy was also used in certain cases with success, such as in determining the structure of numerous synthetic substances. Computers were applied in the problem of gradual division of nucleic acids with restoration of the structure of separate oligonucleotides. Electron microscopy was also used as a tool.

A detailed description of various synthetic compounds produced and of the methods used in their synthesis is given. Emphasis was placed on the non-radiation methods with increased sensitivity of the final analysis of nucleotides and on the development of methods of direct identification of modified nucleotides.

Recent years saw broadening of studies and clinical application of nucleic antimetabolites. It was shown that anomalous nucleosides of various types were most active, least toxic, easily soluble and, possibly, the most promising as basic antimetabolites of nucleic acid metabolism.

Simplified complex preparations studied at Kiev and applied on malignant tumors and virus infections consisted of joint application of antipyri-

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USSR

CHERNETS'KIY, V. P., Vestnik Akademii Ukrainskoy SSR, No 8, 1971, pp 30-41

midines and antipurines and, as expected, were successful. Results are given for a complex chemical therapy of transplanted erythromyelose by some antimetabolites of nucleic acid metabolism, both of local syntheiss and with the ones known before. All tests were successful in reducing swelling, at the same time reducing toxicity. Detailed quantitative data are given of complex chemical therapy of erythromyelosis by the antimetabolites of nucleic acid metabolism.

It is concluded that as of today, chemical therapy may be combined with surgery and other methods in many branches of practical medicine such as organ and tissue transplantation. The use of antimetabolites of nucleic acid metabolism will shortly provide a cure to molecular diseases, and furthermore, chemical prophylaxis will replace surgical, radiation, and chemotherapeutic methods as the basic preventive method of combating malignant growths, virus infections, and other similar pathological processes.

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USSR

UDC 669.295.5'71'292:620.174

CHERNETSOV, V. I., ROMANOV, S. B., BOKMAN, N. N.

"Resistance to Crack Propagation in Titanium Alloys"

Tr. Sev.-Zap. zaoch. politekhn. in-ta (Works of the Northwestern Correspondence Polytechnic Institute), 1971, No 16, pp 84-87 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41750)

Translation: A study was made of the effect of the environment (air and a 3% solution of NaCl), the loading rate (0.005 and 1.2 mm/min), and the grain size and H content (from 0.002 to 0.03%) on the work of crack propagation in two α-alloys of the Ti-Al-V system. Prismatic samples with an acute crack were tested for static bending. The fine-grain alloy resists crack propagation more than the large-grain alloy. With an increase in the loading rate, the crack propagation work drops. A 3% solution of NaCl decreases the crack propagation resistance in comparison with air, especially with large grain structure. In spite of the high total corrosion resistance of Ti α-alloys, they are inclined toward the effect of the corrosive environment under stress, for the protective oxide film is destroyed in the crack formation process. With an H content of 0.01% and more, the work of crack propagation drops sharply, and brittle fracture takes place. 4 illustrations and 2 tables.

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USSR UDC: 681.327.66

BEKH, A. D., KORSUNSKIY, V. M., PAVLUS', B. I., CHERNETSKIY, V. V., Institute of Cybernetics of the Academy of Sciences of the Ukrainian SSR

"An Accumulator"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 293267, Division G, filed 4 Dec 69, published 15 Jan 71, pp 170-171

Translation: This Author's Certificate introduces an accumulator which contains memory elements in the form of flat magnetic films on dielectric substrates, as well as number and digit lines and a current-conducting base. As a distinguishing feature of the patent, the effect of the number current on neighboring memory elements is reduced and the density of the memory elements is increased by adding conductors between the number lines, the ends of the additional conductors being connected to the current-conducting base.

USSR UDC: 621.374.32

BEKH, A. D., CHERNETSKIY, V. V., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Pulse Counter With Variable Scaling Factor"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 10, Apr 71, Author's Certificate No 298076, Division H, filed 4 Dec 69, published 11 Mar 71, p 194

Translation: This Author's Certificate introduces a pulse counter with variable scaling factor which contains potential flip-flops, ripple-through carry diodes and a scaling factor selector switch. As a distinguishing feature of the patent, a constant delay of output signals is provided with a change in scaling factor, and the counter is simplified by making the scaling factor selector switch in the form of a set of normally open switches with one contact of each of them connected to the potential input of the carry diode for one of the digital places of the counter, while the other contacts of these switches are interconnected and tied to the source of controlling voltage. The counter output is the output of the carry diode for the flip-flop of the most significant digit.

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USSR UDC 576.858.25

URYVAYEV, L. V., ZHDANOV, V. M., YERSHOV, F. I., CHERNETSOV, Yu. V., and BUKOVSKIY, A. F., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences

"Sedimentation Characteristics of Venezuelan Equine Encephalomyelitis (VEE) Virus"

Moscow, Voprosy Virusologii, No 3, May/Jun 70, pp 330-336

Abstract: VEE virus was cultured in chick embryo fibroblasts, concentrated and purified. The optimum method for obtaining biologically active virus components consisted of destroying the virus with ether and Tween. Purified VEE virus sedimented at about 380 S in sucrose gradients, the nuclei at about 160 S. Centrifugation in CsCl gradients showed that VEE infectious material bands in two main positions: most of the virus banded at 1.25 g/ml, and a smaller amount at 1.42 g/ml. The main peak of hemagglutinins was detected at a buoyant density of 1.25 g/ml.

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1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SEDIMENTATION CHARACTERISTICS OF VENEZUELAN EQUINE ENCEPHALOMYELITIS VIRUS -U-

AUTHOR-(05)-URYVAYEV, L.V., ZHDANOV, V.M., YERSHOV, F.I., CHERNETSOV, YU.V., BYKOVSKIY, A.F.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 330-336

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VENEZUELAN EQUINE ENCEPHALITIS VIRUS, TISSUE CULTURE, SEDIMENTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1836 STEP NO--UR/0402/70/000/003/0330/0336

CIRC ACCESSION NO--AP0125447

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125447
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VEE VIRUS WAS PROPAGATED IN CHICK EMBRYO CELLS, CONCENTRATED AND PURIFIED. THE OPTIMAL METHOD FOR OBTAINING BIOLOGICALLY ACTIVE VIRUS COMPONENTS CONSISTED IN DEGRADATION OF THE VIRUS WITH ETHER TWEEN. THE PURIFIED VEE VIRUS SEDIMENTED AT ABOUT 380 S IN SUCROSE GRADIENTS, THE NUCLEOID AT ABOUT 160 S. CENTRIFUGATION IN CSCL GRADIENTS SHOWED THE VEE INFECTIOUS MATERIAL TO BAND IN TWO MAIN POSITION: MOST OF THE VIRUS BANDED AT 1.25 G-ML, AND A SMALLER AMOUNT AT 1.42 G-ML. THE MAIN PEAK OF HEMAGGLUTININS WAS DETECTED AT A BUOYANT DENSITY OF 1.25 G-ML. THE SITE OF VIRUS AND ITS COMPONENTS WAS DETERMINED BY RADIOLOGICAL AND BIOLOGICAL TESTS.
FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANKOGO AMN SSR, MOSKVA.

UNCLASSIFIED

USSR

ANZON, Z. V., et al, Institute of Nuclear Physics, Academy of Sciences, Kazakh SSR, Alma-Ata; BOZOKI, G., et al, Central Research Institute of Physics, Budapest; DALKHAZHAV, N., et al, High-Energy Laboratory, Joint Institute of Nuclear Research, Dubna; BABETSKIY, Ya., et al, Laboratory of High-Energy Physics, Institute of Nuclear Research, Polish Academy of Sciences, Krakow; MASLENNIKOVA, N. V., TRET'YAKOVA, M. I., CHERNYAVSKIY, M. M., Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR, Moscow; ALEKSEYEVA, K. I., Scientific Research Institute of Nuclear Physics, Moscow State University, Moscow; CHERNEV, Kh., TODOROV, P. T., Institute of Nuclear Physics, Academy of Sciences of the People's Republic of Bulgaria, Sofia; TUVDENDORZH, D., SHARKHI, D., CHADRAA, V., Institute of Physics and Mathematics of the Academy of Sciences, Mongol People's Republic, Ulan-Bator); AZIMOV, S. A., et al, Institute of Nuclear Physics Academy of Sciences, Uzbek SSR, Tashkent

"Coherent Generation of Particles by π^--Mesons With Momenta of 45 and 60 Gigaelectron-Volts/Sec on the Basis of Photoemulsion Nuclei"

Moscow, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

Abstract: In the present report are presented data concerning the coherent generation of π-mesons by π^--mesons at 45 and 60 gigaelectron-volts/sec, obtained by means of nuclear photoemulsion by the laboratories of a number of institutes 1/2

USSR

ANZON, Z. V., ET AL, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

of the Soviet Union and countries of the Soviet bloc. The joint study was organized by the Photoemulsion Committee of the Joint Institute of Nuclear Research. The preliminary results of this project were presented at the International Conference on Elementary Particles in Lund in June 1969 and at the International Conference on Cosmic Rays in Budapest in August 1969. The path value of the coherent generation of three and five charged particles is obtained from the distribution of charged particles and the angular characteristics of secondary particles on the basis of multiplicity. Comparison of the path value with the corresponding values at lower and higher energies shows a decrease of the run (and, consequently, an increase of the coherent particle-generation cross section) as the energy increases. 5 figures, 11 bibliographic entries.

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USSR

ANZON, Z. V., et al, Institute of Nuclear Physics, Academy of Sciences, Kazakh SSR, Alma-Ata; BOZOKI, G., et al, Central Research Institute of Physics, Budapest; DALKHAZHAV, N., et al, High-Energy Laboratory, Joint Institute of Nuclear Research, Dubna; BABETSKIY, Ya., et al, Laboratory of High-Energy Physics, Institute of Nuclear Research, Polish Academy of Sciences, Krakow; MASLENNIKOVA, N. V., TRET'YAKOVA, M. I., CHERNYAVSKIY, M. M., Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR, Moscow; ALEKSEYEVA, K. I., Scientific Research Institute of Nuclear Physics, Moscow State University, Moscow; CHERNEV, Kh., TODOROV, P. T., Institute of Nuclear Physics, Academy of Sciences of the People's Republic of Bulgaria, Sofia; TUVDENDORZH, D., SHARKHI, D., CHADRAA, V., Institute of Physics and Mathematics of the Academy of Sciences, Mongol People's Republic, Ulan-Bator); AZIMOV, S. A., et al, Institute of Nuclear Physics Academy of Sciences, Uzbek SSR, Tashkent

"Coherent Generation of Particles by π^--Mesons With Momenta of 45 and 60 Giga-electron-Volts/Sec on the Basis of Photoemulsion Nuclei"

Moscow, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

Abstract: In the present report are presented data concerning the coherent generation of π^--mesons by π^--mesons at 45 and 60 gigaelectron-volts/sec, obtained by means of nuclear photoemulsion by the laboratories of a number of institutes

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USSR

ANZON, Z. V., ET AL, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

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1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE GROWING OF CRYSTALS OF A PRESET FORM -U-

AUTHOR-(03)-CHERNEVSKAYA, E.G., SIMUN, YE.A., STOZHAROV, A.I.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, OPTIKO-MEKHANICHESKAYA PROMYSHLENNOST', NO 2, FEB 70, PP 42-44

DATE PUBLISHED----FEB 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL GROWING, CRYSTAL STRUCTURE, NUCLEATION, SINGLE CRYSTAL GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1579 STEP NO--UR/0237/70/000/002/0042/0044

CIRC ACCESSION NO--AP0118562

UNCLASSIFIED

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0118562 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT THE CRYSTALLIZATION OF A MELT IN THE FORM OF A SINGLE CRYSTAL IS POSSIBLE WITHOUT THE CREATION OF AN INOCULATION CENTER AND THAT THE GROWTH OF A SINGLE CRYSTAL MAY PROCEED FROM THE SURFACE OF ANY SPATIAL CONFIGURATION (PLANE, CONCAVE, CONVEX, ETC.). THIS MAKES POSSIBLE A DIRECT GROWING OF CRYSTALS IN THE FORM OF DISKS, SQUARES, LENSES, PRISMS, AND OTHER SIMPLE AND COMPLEX FORMS OF VARIOUS SIZES.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--NONADIABATIC CALCULATION OF POSITIVE PARITY STATES IN ERBIUM 161 AND ERBIUM 163 -U-

AUTHOR-(03)-BAZNAT, M.I., CHERNEI, M.I., PYATOV, N.I.

C

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETT. B 1970, 31(4), 192-4

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--PARITY PRINCIPLE, NUCLEAR MODEL, ERBIUM ISOTOPE, NUCLEAR SPIN, EXCITED NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0674 STEP NO--NE/0000/70/031/004/0192/0194

CIRC ACCESSION NO--AP0052133

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0052133

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CALCN. OF POS. PARITY STATES IN PRIME161 ER AND PRIME163 ER, WITHIN THE NONADIABATIC ROTATIONAL MODEL, HAS BEEN PERFORMED, BY TAKING THE CORIOLIS COUPLING OF 7 SAXON WOODS POTENTIAL ORBITALS INTO ACCOUNT. TWO PARAMETERS, THE ROTATIONAL PARAMETER H PRIME2 OVER 2 PHI AND THE EFFECTIVE PAIRING FORCE STRENGTH G SUBEFF WERE USED IN THE CALCN. A SATISFACTORY FIT OF THE CALCN. TO THE EXPTL. ENERGY LEVELS WITH SPIN VALUES UP TO PRIME TWENTY NINE HALVES CAN BE ACHIEVED ONLY IF A STRONGLY REDUCED PAIRING FORCE AND ROTATIONAL PARAMETER VALUES CLOSE TO THOSE FOR NEIGHBORING EVEN NUCLEI ARE USED.

FACILITY: JOINT INST. NUCL. RES., DUBNA, USSR.

UNCLASSIFIED

12 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ROTATIONAL MOTION IN ODD MASS DEFORMED NUCLEI -U-

AUTHOR-(02)-PYATOV, N.I., CHERNEY, M.I.

COUNTRY OF INFO--USSR

SOURCE--(JINR-PR-4966) 1970, 39P. DEP. CFSTI

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DEFORMED NUCLEUS, ROTATION, EXCITED STATE, NUCLEAR REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1553 STEP NO--UR/0000/70/000/000/0001/0039

CIRC ACCESSION NO--AT0127049

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT7C
CIRC ACCESSION NO--AT0127049
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT STATUS OF THE THEORY OF ROTATIONAL MOTION IN ODD MASS DEFORMED NUCLEI IS REVIED. CRANKING MODEL DESCRIPTION OF ROTATIONAL BANDS BASED ON INTRINSIC EXCITED STATES IS CONSIDERED. SPECIAL ATTENTION IS PAID TO THE EFFECTS OF COUPLING OF INTRINSIC AND ROTATIONAL MOTION WHICH HAVE BEEN REVEALED RECENTLY IN NUCLEAR REACTION STUDIED. SOME NONADIABATICAL METHODS ARE DISCUSSED AND THE EXAMPLES OF NONADIABATIC CALCULATIONS ARE PRESENTED. (48 REFERENCES). FACILITY: JOINT INST. FOR NUCLEAR RESEARCH, DUBNA, USSR, LAB. OF THEORETICAL PHYSICS.

USSR

FISHMAN, S. N., CHERNEYKIN, V. A., and VOL'KENSHTEYN, M. V., Institute of Molecular Biology, USSR Academy of Sciences, Moscow

"Role of Ion Exchange Processes in the Mechanism of Altered Na Permeability of Excitable Membranes"

Moscow, Biofizika, Vol 18, No 5, Sep/Oct 73, pp 834-838

Abstract: Experimental studies have led to the conclusion that pores of excitable membranes may exist in a state which is permeable to Na, as well as impermeable. In the impermeable state they can bind Ca. It is now suggested that yet another state of the pores may exist in which Ca is replaced by K, the extent of which depends on K concentration in the incubate. From the latter state the pores may become permeable to Na. In essence, an electrochemical gradient may be established along which the positive ions are conducted.

USSR

FISHMAN, S. N., CHERNEYKIN, V. A., and VOL'KENSHTEYN, M. V., Institute of Molecular Biology, Academy of Sciences USSR, Moscow

"Molecular Mechanism of the Initiation of Muscle Contraction"

Moscow, Biofizika, No 6, 1972, pp 1,061-1,067

Abstract: The authors propose a mathematical model that describes the kinetics of muscle fiber response to the application of depolarizing potential to the membrane. The model assumes that the development of isometric contraction is limited to two main reactions: (a) desorption of Ca^{++} from the reticulum due to the charge in the electrical field and (b) formation of an actomyosin bridge and subsequent conformation change in protein. The behavior of the model system in time is examined in three situations: (a) after the application of fixed potential to the membrane, (b) after brief polarization of the membrane, and (c) after stimulation of the muscle fiber by a series of short impulses (tetanus).

USSR

UDC 669.71.472(088.8)

CHERNICHENKO, I. A.

"Hopper for Alumina and Other Fine-Grain Materials, Unloaded on One Side"

USSR Author's certificate No. 259395, Filed 5/05/68, Published 28/04/70, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1 G 126 P)

Translation: The hopper includes a body with an aeration element, an air-collecting groove, a spout, an air distributor, and an air blower. In order to increase the productivity of the hopper and more effectively use its volume, a blow chamber of an elastic, gas-impermeable material is included within the body, designed to feed Al_2O_3 and other fine-grain materials to the aerating element.

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Acc. Nr.: AP0029102

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii, 1970, Vol 70, Nr 1, pp 23-27

CONCERNING THE CLINICAL CHARACTERISTICS AND DIFFERENTIAL DIAGNOSIS OF HYPERKINETICAL FORMS OF DISSEMINATED SCLEROSIS

N. V. Chernigovskaya

The author reports of a case of disseminated sclerosis, characterized by an expressed tremor of the dento-rubral type. Differential diagnostic criteria are given for this form of disseminated sclerosis and the trembling form of hepato-cerebral dystrophia. Except the clinical symptoms the author attracts attention to such signs as changed copper metabolism, hemorrhagic, symptoms, a changed picture of the blood count.

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REEL/FRAME

19680613

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1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SOME VISCERAL DISTURBANCES IN DIFFUSE SCLEROSIS -U-

AUTHOR--CHERNIGOVSKAYA, N.V.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 92-96

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, LEUKOPENIA, LIVER FUNCTION, ELECTROCARDIOGRAPHY, HEMATOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1773 STEP NO--UR/0497/70/048/005/0092/0096

CIRC ACCESSION NO--AP0129141

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN PATIENTS WITH DIFFUSE SCLEROSIS THE AUTHOR CARRIED OUT ELECTROCARDIOGRAPHIC, HEMATOLOGICAL AND MORPHOLOGICAL (PUNCTURE OF THE LIVER) INVESTIGATIONS. THERE FOUND NONSPECIFIC CHANGES OF THE CARDIAC MUSCLE OF THE TYPE OF FOCAL MYOCARDITIS, LEUKOCYTIC BLOOD FORMULA (LEUKOPENIA, NEUTROPENIA, A SHIFT TO THE LEFT) AND MESENCHYMAL HEPATIC TISSUE. THE ABOVE MENTIONED ALTERATIONS IN PATIENTS WITH DIFFUSE SCLEROSIS ARE A SUPPLEMENTARY ARGUMENT IN FAVOR OF THE INFECTIOUS ALLERGIC PATHOGENESIS OF THE DISEASE.

FACILITY: INSTITUT NEVROLOGII AMN SSSR.

UNCLASSIFIED

USSR UDC 62-503.52

ZABLOTSKIY, G. A., CHERNUKHIN, V. Sh., FUTRITSKIY, Yu. V., Institute of Semiconductors, Academy of Sciences of the USSR

"A Device for Programmed Control of Technological Parameters"

USSR Author's Certificate No 318916, filed 12 Aug 69, published 22 Dec 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A181 P)

Translation: Programmed control devices are known which contain a programmed input controller connected to a two-position regulating device whose second input is connected through a device for measuring the parameter to be controlled to a pickup installed at the output of the control object and connected to an actuator. A device for programmed control of technological parameters is proposed which contains a programmed input controller connected to a two-position regulating device. The second input of the regulating device is connected through a meter for the parameter to be controlled to a pickup installed at the output of the control object. The latter is connected to an actuator. To reduce the amplitude and frequency of self-oscillations and residual displacement, the device

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200530004-5"

USSR

ZABLOTSKIY, G. A. et al., USSR Author's Certificate No 318916

contains an adder at the output of the regulating device. The adder output is connected to the actuating mechanism. The controller also incorporates an amplifier connected to the meter for the parameter to be controlled, a module for determining the sign of change in the parameter which is connected to the programmed input controller, a block for setting the transfer ratio which is connected to the output of the amplifier, to the output of the module for determining the sign of the change in the parameter, and to the adder input.

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USSR

UDC 621.394.542

BELOV, P. V., KIRILLOV, N. YE., CHERKUNOV, A. I., Active Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Noiseproofness of Spaced Reception in the Presence of Fading Noise"

Moscow, Radiotekhnika, Vol 27, No 1, 1972, pp 77-79

Abstract: The noiseproofness of spaced reception of a signal under the simultaneous effect of fading concentrated noise and fluctuation noise is analyzed. Experimental and theoretical results are presented showing that the system for reception of a fading signal against a background of fading and fluctuation noise with spacing and in the presence of subsequent coherent addition of the signals of the spacing branches (and also self-tuning shortwave antenna arrays with the same operating principle) is an effective means of improving the noiseproofness of the reception. For standard reception conditions in the shortwave range when the ratio of the mean energies of the signal and noise is 0.1-0.05, a system with n = 20 insures an error probability of $P_{error} \sim 10^{-2}$. In contrast to reception of a fading signal against a background of fluctuation noise when an increase in the number of branches N above 3-5 does not lead to further improvement of the noiseproofness and, consequently, is inexpedient,

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USSR

BELOV, P. V., et al., Radiotekhnika, Vol 27, No 1, 1972, pp 77-79

in the investigated case of reception of a signal against a background of fluctuation noise and fading noise, a significant gain in noiseproofness is observed to N = 20. Further increase in the number of branches is expedient.

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USSR UDC 621.357.8

MARCHENKO, M. A., and CHERNENKO, G. G., Khar'kov Polytechnic Institute imeni V. I. Lenin

"Production and Properties of Thick Oxide Films in Titanium"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 74-77

Abstract: A study was made of the anodic behavior of VT1-1 brand titanium in acid chloride, phosphate-chloride, and sulfate-chloride solutions. The properties of developing anodic films and some utilization areas of anodized titanium were investigated. The joint presence of corrosion in solutions of ion-inhibitors (SO_4^{2-}, PO_4^{3-}) and ion-activators (Cl^{-1}) was found to be essential for the development of a thick phasal film. Areas of corrosion damage and of the development of thick white and thin colored films in systems $HCl-H_3PO_4-H_2O$ and $HCl-H_2SO_4-H_2O$ and the anodic film thickness, changing in time, are shown. Obviously, in the titanium-anodic film pair the oxide is the cathode. In connection with high porosity, the thick-layered oxide does not provide corrosion protection of titanium. Three figures, ten bibliographic references.
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USSR UDC 616.89-008.44-092.9-07:616.151.5-07

CHERNIGOVSKAYA, S. V., CHERKOVICH, G. M., and UZUNYAN, L. A., Institute of Experimental Pathology and Therapy, Academy of Medical Sciences USSR, Sukhumi, and Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

"The Effect of Severe Emotional Stress on Blood Coagulation System Indexes in Monkeys"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 75, No 3, 1973, pp 29-32

Abstract: Fibrinogen, alpha and beta lipoprotein, free fatty acid, and cholesterol concentration, as well as recalcification and heparin time, prothrombin index, thrombocyte adhesion, and fibrinolytic activity of blood were determined in 2 groups of baboons -- six contols on normal diet and 7 monkeys that had been fed a high cholesterol diet for 3 years -- prior to and during emotional stress induced by violating the cutomary tribal hierarchy (Miminoshvili method) and disrupting the daily feeding routine and the diurnal light-darkness cycle (Cherkovich method). A significant and practically identical rise in fibrogen concentration from an initial 363±36 to 470±37 mg% was observed in both groups during stress, even though the monkeys on a high cholesterol diet had a persistently elevated free fatty acid concentration (1,002 vs. 740 mequ/L).
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CHERNIGOVSKAYA, S. V.,et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 75, No 3, 1973, pp 29-32

Fluctuations in the other parameters were random and insignificant. It is suggested that a prolonged elevation of fibrinogen concentration may change the permeability of blood vessel walls and promote atherosclerosis and thrombopoiesis.

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Physiology

USSR UDC 612(09)

CHERNIGOVSKIY, V. N., and LANGE, K. A., Leningrad

"Physiological Sciences in the USSR for the Past 50 Years"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 12, 1972, pp 1789-1794

Translation [excerpt]: The 1971-1975 plan for scientific research calls for development of six major directions in physiology -- evolutionary and ecological physiology, neurophysiology and higher nervous activity, physiology of sensory systems (analysors), physiology of visceral systems, integrated studies of man, and physiology of agricultural animals. The table shows the number of laboratories, departments, and other scientific collectives participating in the development of particular directions in physiology as percentages of the total number of scientific institutions participating in the development of physiological sciences in the USSR.

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CHERNIGOVSKIY, V. N., and LANGE, K. A., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 12, 1972, pp 1789-1794

Table. Participation of Scientific Collectives (Laboratories, Departments) in the Development of the Principal Directions in the Physiology of Man and Animals in 1971-1975

Principal directions of physiological science	Number of laboratories, departments (%)
Evolutionary and ecological physiology	15.7
Neurophysiology and higher nervous activity	26.2
Physiology of sensory systems	3.8
Physiology of visceral systems	19.4
Integrated study of man	21.4
Physiology of agricultural animals	13.5

An analysis conducted in the last few years on the trends in development of physiological science as well as of scientific disciplines associated with physiology has made it possible to work out a number of forecasts on the development of some directions in physiology. For example a forecase for the long-range development of research on the physiology of visceral systems has been made.

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CHERNIGOVSKIY, V. N., and LANGE, K. A., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 12, 1972, pp 1789-1794

A forecast has also been worked out for problems involving human adaptation to various climatic conditions. It should be noted that the problem of the effects of ecological factors that act on the human body in nature is exceedingly pressing. The reason for this urgency is, in particular, the need for conquering outer space and the depths of the oceans, which has saddled civilization with the task of creating and organizing artificial ecological systems designed for long-term habitation. In addition the problem of adaptation affects the interests of the entire society and is a broad problem of general biology. Research in this field is exceedingly important considering the development of new geographic zones in our country -- areas of Siberia, the Far East, and the Far North. It is obvious that the continually expanding sphere of human habitation requires a most complete knowledge of the laws governing man's vital activities. In this regard we see the development of physiology in terms of recognizing the laws and function of ecosystems and using these laws to optimize living environments to be one of the most important "points of growth."

A study of emotional memory is important and development of a systems approach to physiological processes (P. K. Anokhin) should be one of the most important problems of modern physiology.

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