USSR

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

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

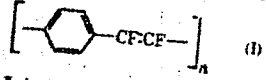
2/2

Acc. Nr. AT0045325

Abstracting Service: CHEMICAL ABST. R 5-70

Ref. Code UR0020

30897m **Synthesis of conjugated polymeric organofluorine compounds.** Panov, E. M.; Rybakova, L. F.; Kocheshkov, K. A. (Fiz.-Khim. Inst. im. Karpova, Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(1), 122-4 [Chem] (Russ). A mixt. of poly[(1,2-difluorovinylene)-*p*-phenylenes] (I) was obtained in 85-90% yield by adding *p*-$LiC_6H_4CF{:}CFCl$ to an equiv. amt. of *p*-$BrC_6H_4CF{:}CFCl$ in ether at −75° under Ar or N. The I mixt. was a bright yellow powder, decompd. >320°, and had av. mol.



(I)

wt. 844 (d.p. ~7). I (n = 6) was obtained in 30-5% yield by dissolving mixed I in toluene and cooling. Addn. of Et_2O to the mother liq. yielded ~40% I (n = 4) (Ia). The mother liquor from this step was then poured into MeOH to ppt. ~15% I (n = 3) (Ib), m. 175°. The absence of Cl and Br (end groups) and the same elementary compn. for all I suggested a cyclic structure. Ib added 3 moles Br after 3 hr at 25° in CCl_4 to give 85% cyclotris[*p*-(1,2-difluoro - 1,2-dibromoethylene)phenylene]. Cyclotetrakis[*p*-(1,2-difluoro-1,2-dibromoethylene)phenylene] (62%) was similarly obtained at higher temp. after 3 hr from Ia. I were oxidized to terephthalic acid by Cr_2O_3 in 40% HOAc.

DBJR

REEL/FRAME 19780249

Heat Treatment

USSR

UDC 539.4

RYBAKOVA, L. M., and MERENKOVA, R. F., Moscow

"The Role of Impurities and Alloying With Aluminum in Pore Formation in Copper During Cyclical Heat Treatment"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 80-85

Abstract: The formation of pores and microcracks upon thermal cycling of copper is studied as a function of the content of impurities, the alloying element, and the structural state of the metal with various temperatures of preliminary annealing. The formation of pores and microcracks occurs both in technical and in refined copper. As the temperature of preliminary annealing is increased, reinforcement of pore formation is observed. In alloys of copper with aluminum, crack formation occurs at points of accumulation of the alloying element in the case of its uneven distribution through the volume of the metal.

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Heat Treatment

USSR UDC 539.4

RYBAKOVA, L. M., and MERENKOVA, R. F., Moscow

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--DIAGNOSTIC SIGNIFICANCE OF PNEUMOTHROIDOGRAPHY -U-

AUTHOR--RYBAKOVA, N.I., PROPP, R.M.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 2, 1970 PAGES 47-51

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--X RAY TECHNIQUE, SURGERY, DIAGNOSTIC METHOD, THYROID GLAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0727 STEP NO--UR/0248/70/025/002/0047/0051

CIRC ACCESSION NO--AP0102697

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102697

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THUS, ANALYSIS OF OUR FINDINGS AND ROENTGENO SURGICAL COMPARISON REVEALS THE HIGH RESOLUTION OF THIS METHOD, WHICH, WITH PROPER SKILL IN INTERPRETING ROENTGENOTOMOGRAMS, FURNISHES A COMPLETE PICTURE AS TO THE STATE OF THE THYROID GLAND AND ADJACENT TISSUES PRIOR TO SURGICAL INTERVENTION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720014-1"

1/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--CONCOMITANT PARASPINAL SHADOW AND CHANGES THEREIN IN PATIENTS WITH MYELOSIS -U-

AUTHOR--RASSOKHIN, B.M., RYBAKOVA, N.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 2, 1970, PAGES 43-47

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--X RAY TECHNIQUE, RADIOLOGY, MUSKULOSKELETAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0726 STEP NO--UR/0248/70/025/002/0043/0047

CIPC ACCESSION NO--AP0102696

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102696

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AFTER STUDYING X RAY FINDINGS WITH RESPECT TO SPINAL LESION IN MYELOSIS PATIENTS, WE CONCLUDED THAT THE CHANGES IN THE CONCOMITANT PARASPINAL SHADOW CAN BE USED AS AN ADDITIONAL SYMPTOM OF LESION TO THE THORACIC SPINE. BUT WHAT WE BELIEVE TO BE OF PARTICULAR VALUE IS THE FACT THAT CHANGES IN THIS SHADOW CAN PRECEDE ROENTGENOLOGICALLY VISIBLE PATHOLOGICAL CHANGES IN THE VERTEBRAE, AND CONSEQUENTLY IT IS THE FIRST SYMPTOM INDICATIVE OF DEVELOPMENT OF A DESTRUCTIVE PROCESS IN THE SPINE.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ENTHALPY OF FORMATION OF CARBON BLACK -U-

AUTHOR-(03)-LEZHNEV, N.N., RYBAKOVA, V.I., KRASILNIKOVA, M.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1362-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--ENTHALPY, CARBON BLACK, CHEMICAL PRODUCT PRODUCTION, ELASTOMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0755 STEP NO--UR/0076/70/044/005/1362/1363

CIRC ACCESSION NO--AP0136192

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0136192
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS IS THE 1ST ATTEMPT TO CLASSIFY THE THERMODYNAMIC CHARACTERISTICS OF VARIOUS TYPES OF C BLACK. DATA ARE GIVEN ON THE TEMP. OF COMBUSTION AND THE CALCD. AND EXPTL. ENTHALPY OF FORMATION OF C BLACK. THESE DATA CHARACTERIZE THE STRUCTURE DEVIATION OF C BLACK FROM THE STRUCTURE OF GRAPHITE. THE INFLUENCE OF VARIOUS CONDITIONS OF C BLACK PRODUCTION ARE CONSIDERED. A MODEL OF C BLACK, USEFUL IN CONSIDERING ELASTOMER STRENGTHENING IS ADVANCED.
FACILITY: NAUCH.-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0041510 Abstracting Service: CHEMICAL ABST. Ref. Code: 4/70 UR0366

89931m Chemistry of free radicals of the hydrazine series. IX. Synthesis and properties of some hydrazinoformazans. Rybakova, Yu. A.; Lipatova, L. E.; Matevosyan, R. O. (Ural. Lesotekh. Inst., Sverdlovsk, USSR). *Zh. Org. Khim.* 1970, 6(1), 182-4 (Russ). The condensation of $PhCH{:}NNH_2$ with $Ph_2NNHC_6H(NO_2)_2NHN{:}CNPh$-2,4,6,3 (I). The addn. of 4-$XC_6H_4N_2Cl$ (X = H or Cl) in aq. HCl–$NaNO_2$ mixt. to cooled I gave a ppt. of $Ph_2NNHC_6H(NO_2)_2(NHN{:}CPhN{:}NC_6H_4X$-4)-2,4,6,3 (II). Uv and ir spectra of II are compared with the spectra of the related formazans.
CPJR

REEL/FRAME 19751378

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF THE TEMPERATURE USED IN PREPARING STARCH PHOSPHATE STABILIZED EMULSIONS ON THEIR PHYSICOCHEMICAL PROPERTIES -U-

AUTHOR-(03)-SAVOSTIKOVA, N.F., RYBAKOVA, YU.S., LUKYANOV, A.B.

COUNTRY OF INFO--USSR

SOURCE--MASLO ZHIR. PROM. 1970, 36(3), 33-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--STARCH, PHOSPHATE, EMULSION, CHEMICAL STABILITY, THERMAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0699 STEP NO--UR/9085/70/036/003/0033/0034

CIRC ACCESSION NO--AP0119606

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119606

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GREATEST DISPERSITY OF THE TITLE EMULSIONS WAS REACHED AT 40DEGREES. FACILITY: MOSK. TEKHNOL. INST. PISHCH. PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

SMIRNOVA, T. N., KOSTOMETOVA, Ya. M., RYBAKOVA, Yu. V.

"On Making Calculations in the PRORAB Mode"

Zap. nauch. seminsrov Leningr. otd. Mat. In-ta AN SSSR (Notes of Scientific Seminars of the Leningrad Department of the Mathematics Institute, Academy of Sciences of the USSR), 1971, 23, pp 132-137 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V518)

Translation: A report is made on the results of whole-number computer calculations in the mode of a special program of interpreting type -- PRORAB. For this purpose, the PRORAB library of the M-20 computer is supplemented in the division of programs of polynomial operations by a program of "division" of polynomials which enables transition from polynomial operations to operations with rational functions. When this transition is made, the elimination of all common multiples in the denominator and numerator of each rational function is found to be non-trivial. It is noted that a generalized version of Euclid's algorithm can be realized in the PRORAB mode on the basis of the program of "division" of polynomials. A brief presentation is given of an approach to realization of programs of arithmetic operations on large whole numbers. V. Mikheyev.

1/1

USSR

UDC: 681.3.06:51

SMIRNOVA, T. N., ALEKSANDROVA, A. A., RYBAKOVA, Yu. V., SOLOV'YEVA, N. A.

"The PRORAB $\Pi_1(P,v)$ M-20 Computer"

Zap. nauchn. seminarov Leningr. otd. Mat. in-ta AN SSSR (Notes of the Scientific Seminars of the Leningrad Department of the Mathematics Institute of the Academy of Sciences of the USSR), 1970, 18, pp 31-75 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V733)

Translation: The authors describe the PRORAB $\Pi_1(P,v)$ M-20 computer which can perform operations not only with algebraic and trigonometric polynomials of an arbitrary number of independent variables, but also with objects of another nature, in particular with "perforated" matrices and vectors. The elements of the $\Pi_1(P,v)$ M-20 are: 1) the base M-20 computer with a single operational memory array; 2) the PRORAB $\Pi_1(P,v)$; 3) a library of programs of operations which consists of two divisions: a division of programs of polynomial operations, and a division of programs of operations on "perforated" data blocks. The PRORAB $\Pi_1(P,v)$ program and a set of programs of operations on "perforated" data blocks are given in "M-20" computer codes. V. Mikheyev.

1/1

UNCLASSIFIED

TITLE--SEVERNYY POLYUS-19 INHABITANTS MOVE TO ANOTHER ICE FLOE -U-

PROCESSING DATE--13NOV70

AUTHOR--RYBAKOVSKIY, E.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, PRAVDA, 26 AMRCH 1970, P 6

DATE PUBLISHED--26MAR70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ICE FLOE, DRIFT STATION, POLAR AREA, ARCTIC CLIMATE/(U)SP19 DRIFT STATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0979

STEP NO--UR/9012/70/000/000/0006/0006

CIRC ACCESSION NO--AN0107500

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0107500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLAR WORKERS ON THE DRIFTING STATION "SEVERNYY POLYUS-19" CELEBRATED A UNIQUE HOUSE WARMING. AIRCRAFT AND HELICOPTERS OF THE "SEVER-22" HIGH LATITUDE AIR EXPEDITION MOVED THEM TO A NEW ICE "APARTMENT". THIS FIRST KOMSOMOL YOUTH STATION IN THE HISTORY OF SCIENTIFIC INVESTIGATIONS IN THE ARCTIC WAS OPENED IN THE AUTUMN OF LAST YEAR. RECENTLY THE DRIFTING ICE ISLAND ON WHICH THE STATION WAS LOCATED RAN INTO SHALLOW WATER AND BEGAN TO BREAK UP. IT WAS THEN DECIDED TO RELOCATE THE STATION IN THE ARCTIC HANDLED THE OPERATION SUCCESSFULLY.

UNCLASSIFIED

USSR

RYBAL'CHENKO, M. K., ZOLOTAREVSKIY, YU. S., KABICHEV, B. I., USTINOV, L. M., IVANOV, V. V., and ZHAMNOVA, V. I., Moscow

UDC: 539.4:669.71

"Some Mechanical Properties of a Fibrous Composite Material Based on an Aluminum Alloy"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 73, pp 117-122

Abstract: The authors produce a series of fibrous composites made from aluminum alloy and wire made from the EP322 grade steel. This was done by the hot rolling method using the scheme for bonding packs. Reinforcing the aluminum alloy with 12.4 volumetric percent wire increases the specific strength of the material from 15.2 to 19.7 km. The best properties are ensured by a bonding scheme which incorporates the simple multi-layer (two-layer) winding of the fibers onto the sheets of the matrix.

1/1

Composite Materials

USSR

UDC 620.1

RYBAL'CHENKO, M. K., (DECEASED), USTINOV, L. M., Institute of Metallurgy imeni A. A. Baykov, Academy of the USSR, Moscow

"Effect of Fiber-Matrix Interfaces on the Ductility and Strength of Fiber Compositions"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 48-52

Abstract: The authors investigate the effect of the fiber-matrix interface on the ductility and strength of fiber composites with a monodirectional structure of the matrix-fiber system and a strong bond between components. It is found that the properties of fiber composite materials (and in particular the ductility and strength) are determined by three basic components: matrix, fibers, and matrix-fiber interface. The ductility of fiber composites is in all cases lower than the ductility of the matrix and higher than the ductility of the fibers. The ductility of composite changes nonadditively as a function of the percentage content of fiber and matrix as a whole. The basic cause for this nonadditive change in ductility is the fiber-matrix interfaces. As the density of the interfaces increases, i. e. as the fibers become finer, there is an increase in the fraction of nonadditive variation in ductility, and the additive variation characterized by the

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USSR

RYBAL'CHENKO, M. K., USTINOV, L. M., Problemy Prochnosti, No 9, Sep 72, pp 48-52

ductility of the fibers and matrix decreases. The interfaces in the overall ductility of the **composite** play a dual role, reducing the ductility of the matrix and increasing the ductility of the fibers. The interfaces retard the constriction of reinforcing fibers, which make the greatest contribution to the increase in strength of **composite** over that calculated by the rule of additivity at a high coefficient of strain hardening.

2/2

USSR

UDC 621.762.2:669.24

LAVRENT'YEV, I. A., SHCHEGOLEVA, R. P., BOROK, B. A., RYBAL'CHENKO, M. K.

"Problem of Using the Waste from Machining Alloys for Powder Metallurgy"

K voprosu ispol'zovaniya otkhodov mekhanicheskoy obrabotki splavov dlya tseley poroshkovoy metallurgii (Problem of Using the Waste from Machining Alloys for Powder Metallurgy), Metallurgy Institute of the USSR Academy of Sciences, Moscow, 1971, 21 pp, ill. 20-entry bibliography, No 3522-71 Dep. (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G398 DEP)

Translation: Results are presented from the development of a technological process for obtaining KhN55VMTFKYu Ni-alloy powder from shavings -- production waste. The developed technological process was tested in the production of experimental lots of the powder. A study was made of the conditions of obtaining the sintered and deformed alloy and its mechanical properties at room temperature and higher temperatures. Five illustrations, 6 tables, and a 20-entry bibliography.

1/1

Composite Materials

USSR UDC 539.4.019.2:669.71

RYBAL'CHENKO, M. K., and USTINOV, L. N., Moscow

"Fiber Composite Materials Based on Aluminum Alloys"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 70, pp 97-106

Abstract: The article is a survey of results, reported in the literature, of experimental studies of the mechanical properties of aluminum-base fiber composites. Composites based on aluminum alloys with the following macrostructures are known at the present time: a) unidirectional continuous, b) unidirectional discrete, c) multidirectional discrete, d) multidirectional continuous. Fabrication methods include powder metallurgy, pressure treatment, diffusion welding, plasma spraying, casting and vacuum impregnation, electrolytic deposition, explosive welding. The following are at present the most promising composites based on aluminum alloys: a) Al alloy/stainless steel wire, b) Al/SiO_2 -- fibers, c) Al alloy/Be -- wire, d) Al/Al_2O_3 -- "whiskers," e) Al/B -- fibers. The last two systems are especially promis-

USSR

RYBAL'CHENKO, M. K., and USTINOV, L. M., Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 70, pp 97-106

ing. These composites have higher specific strength and elastic modulus values than high-strength aluminum alloys. The reinforcement of aluminum alloys with high-strength fibers as a whole increases resistance to fatigue rupture, creep resistance, long-time strength, impact strength and, in some cases, damping capacity. All mechanical properties of aluminum-base composites depend to a considerable extent on fabrication process parameters. Changing one of the parameters may impair some properties of a material and at the same time improve others.

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USRR

UDC 621.791.1

IVANOV, V. YE., AMONENKO, V. M., GODIN, V. M., RYBAL'CHENKO, N. D., TRON', A. S., and YAKUSHIN, A. F., Khar'kov

"Properties of Compounds of Ti Alloys With Steel Made in Thin Layers"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 101-105

Abstract: The strength and plastic properties of the bimetals VT6S-1Khk8N1OT, OT4-1Kh18N1OT, Vt14-1Kh18M1OT, and AT2-Khk8kOT with niobium-copper interlayers were studied in the temperature range from -196 to +1,000°C. The influence of the dimensional factor on the effect of contact hardening of the interlayer was established. The increase in the strength of the thin copper interlayers is explained by specifics of the stress state of the metal with low yield point, located between two stronger metals. This state of the metal during deformation results in higher shear stresses, resulting from blocking of dislocations by the stronger metal at the division boundary. The use of these thin interlayers of copper and niobium, preventing the formation

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USSR

IVANOV, V. YE., et al., Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 101-105

of brittle compounds at the titanium-steel division boundary, allows the production of the material with high strength, good impact toughness, fatigue resistance, and satisfactory ductility.

USSR

UDC 539.4

GOLOVIN, V. N., RYBAL'CHENKO, N. D., SOMOV, A. I., TRON', A. S., Khar'kov

"The Problem of the Strength of Nickel, Reinforced with Tungsten Fibers"

Problemy Prochnosti, No 11, 1971, pp 91-94.

ABSTRACT: Vacuum rolling is used to produce a nickel-tungsten fiber sheet composition material with a volumetric fiber content of from 4 to 16%. The specifics of deformation of fibers are studied in the process of combined rolling with the plastic matrix.

Certain mechanical properties of the composition are studied in extension, along with the nature of its rupture at 20-800°C.

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USRR

UDC 621.791.1

IVANOV, V. YE., AMONENKO, V. M., GODIN, V. M., RYBAL'CHENKO, N. D., TRON', A. S., and YAKUSHIN, A. F., Khar'kov

"Properties of Compounds of Ti Alloys With Steel Made in Thin Layers"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 101-105

Abstract: The strength and plastic properties of the bimetals VT6S-1Khk8N10T, OT4-1Kh18N10T, Vt14-1Kh18M10T, and AT2-Khk8k0T with niobium-copper interlayers were studied in the temperature range from -196 to +1,000°C. The influence of the dimensional factor on the effect of contact hardening of the interlayer was established. The increase in the strength of the thin copper interlayers is explained by specifics of the stress state of the metal with low yield point, located between two stronger metals. This state of the metal during deformation results in higher shear stresses, resulting from blocking of dislocations by the stronger metal at the division boundary. The use of these thin interlayers of copper and niobium, preventing the formation

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USSR

IVANOV, V. YE., et al., Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 101-105

of brittle compounds at the titanium-steel division boundary, allows the production of the material with high strength, good impact toughness, fatigue resistance, and satisfactory ductility.

USSR

UDC 621.79

AZHAZHA, V. M., AMONENKO, V. M., KOVTUN, G. P., RYBAL'CHENKO, N. D.

"Effect of Titanium Coatings on the Plasticity of Molybdenum"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 70, pp 59-62

Abstract: Titanium coatings cause a change in the plasticity of molybdenum. The nature and degree of the effect of the coatings depend on the thickness of the coating, the annealing conditions, and other factors. Titanium films up to 1 micron thick cause an increase in the elongation per unit length of molybdenum after annealing in the temperature range of 450-1100°C. Films 10 microns thick and more increase the plasticity of molybdenum if the annealing temperature after coating does not exceed 700°C, and they cause embrittlement after annealing above 800°C. The mechanism of the effect of titanium coatings on the plastic properties of molybdenum is discussed. Additional data are given on the effect of titanium coatings on the plastic properties of molybdenum and on the causes of the plasticizing and embrittling effect of titanium coatings.

Microphotographs of the samples after various heat treatments are presented. It is pointed out that during the process of annealing, diffusion of titanium in the surface layers of molybdenum takes place primarily with respect to the lattice defects, in particular, along the grain boundaries. In molybdenum the grain boundaries are the most probable centers of fracture. Fracture of polycrystalline

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720014-1"

USSR

AZHAZHA, V. M., et al, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 70, pp 59-62

samples of molybdenum almost always begins on the grain boundary, although propagation of the fracture can have a transcrystalline nature. The diffusion of titanium along the grain boundaries neutralizes the effect of the interstitial admixtures which usually are isolated along the grain boundaries and harden the boundaries. This decreases the probability of occurrence of centers of fracture along the grain boundaries and leads to a more uniform deformation of molybdenum. This explains the fact that the maximum elongation of the molybdenum samples is reached with a titanium film 1 micron thick after annealing in the temperature range of 1000-1100°C.

2/2

USSR

RYBAL'CHENKO, V. K., Chair of Biophysics, imeni T. G. Shevchenko, Kiev State University, Kiev

"Depolarization Mechanism of Smooth Muscle Cell Membranes in a Calcium-Free Medium"

Moscow, Biofizika, Vol 15, No 3, May-Jun 70, pp 459-465

Abstract: Removal of calcium ions from the surrounding solution depolarizes the smooth muscle membrane and decreases its resistance to direct electric current. Maximum depolarization and maximum decrease of membrane resistance in calcium-free solution coincide in time, indicating a cause-effect relationship between these processes. The removal of calcium ions from the surrounding solution always inhibits the spontaneous activity of smooth muscle cells, after a brief intensification of activity. The excess of sodium ions in Krebs calcium-free solution induces oscillation of the membrane potential of smooth muscle cells. Depolarization of the smooth muscle cell membrane in calcium-free solution is determined by the increase of membrane permeability with respect to sodium and potassium ions. The increase of sodium permeability is considerably greater than the increase in potassium permeability. Under normal conditions Ca ions prevent the entrance of Na^+ into smooth muscle cells and the release of K^+ from them. Chloride ions apparently do not participate directly in the depolarization of smooth muscle cells caused by the removal of calcium ions from the surrounding solution.

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USSR

DUBINSKIY, YA. I. and RYBAL'CHENKO, V. V.

PNEUMATIC DEVICE FOR DETERMINATION OF THE SIGN OF A DERIVATIVE

Moscow OTKRYTIYA IZOBRETENIYA PROMYSHLENNYYE OBRAZTSY TOVARNYYE ZNAKI in Russian No 8, Feb 74 p 141

[Abstract] This is a pneumatic device for determination of the sign of a derivative. It contains repeaters with positive and negative shift, the inputs of which are connected to the input channel of the device; comparison elements, the outputs of which are connected to the output channels of the device; a choke and normally open pneumatic valves. It differs in that in order to increase the reliability of the operation of the device, the outputs of the repeaters with shift are connected to the first inputs of the comparison elements, the second inputs of which are connected through a choke to the outputs of normally closed pneumatic valves, one of which is connected to the feed line, while the other is connected to the atmosphere; the controlling inputs of the pneumatic valves are connected to the output channels of the device.

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USSR

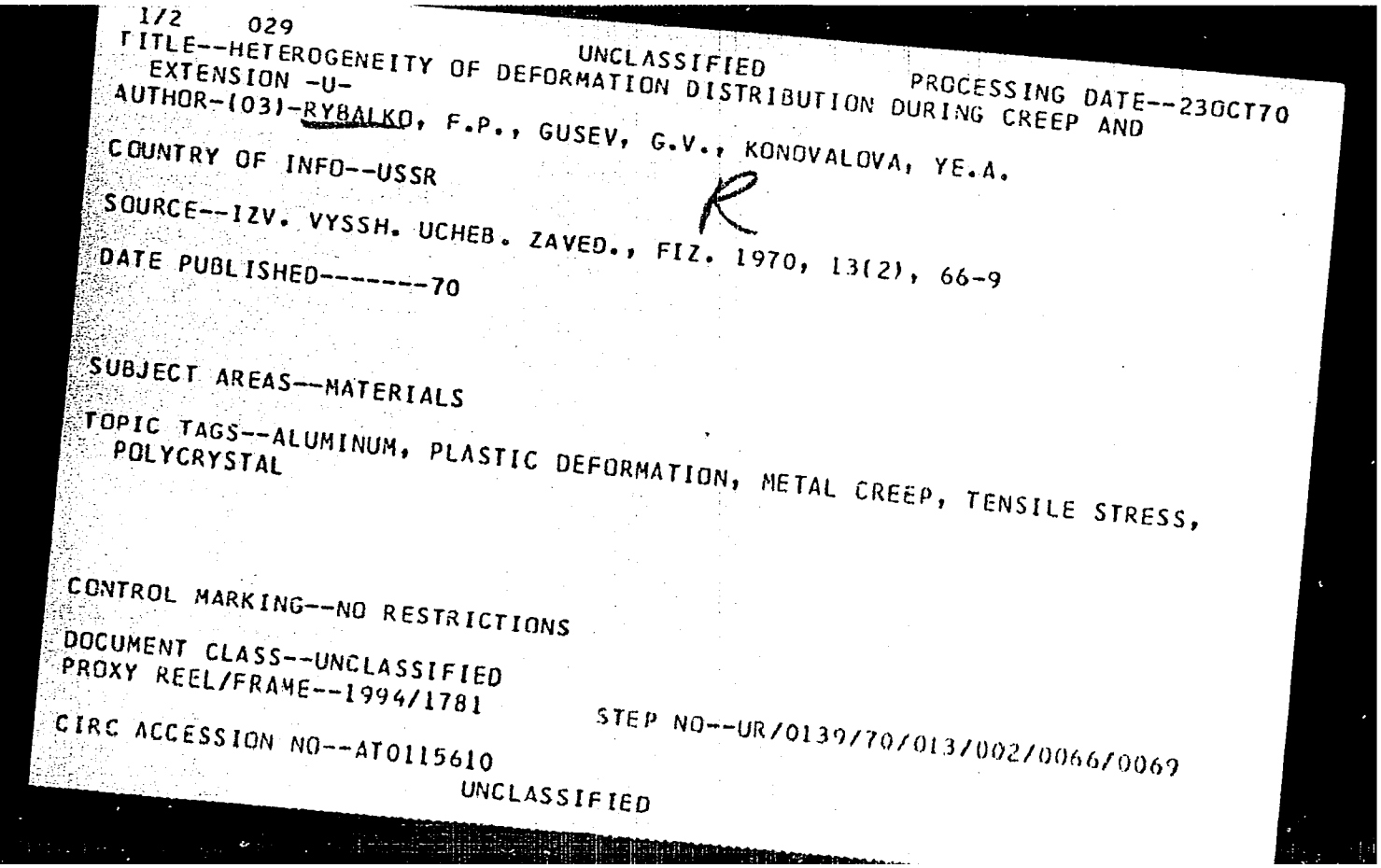
UDC 669-157.96

VOSKRESENSKAYA, N. L., GNUCHEV, V. S., GUREVICH, M. YE., KRASIL'NIKOV, V. S., LARIKOV, L. N., RYBALKINA, L. V., and SINITSKIY, N. YE., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Physical Nature of the Processes of formation of Complex Mechanical Properties During the Tempering of a Hardened Alloyed Structural Steel"

Kiev, Metallofizika, No 40, 1972, pp 53-56

Abstract: Calorimetric, x-ray, volumetric, and mechanical tests were used to study the physical processes which take place in the tempering of a complexly alloyed structural steel (approximately 0.33% C, 3% Cr, 1% Mn, Ni, W, and V). The magnitudes of thermal and volume effects were determined in the tempering stages. The types of processes occurring and their effect on the formation of mechanical properties were analyzed. It was established that the optimum combination of strength and ductile properties, obtained as a result of tempering the investigated steel for an empirically selected mode, was associated with the occurrence of processes of internal stress relaxation, primarily at points of their maximum concentration. The hypothesis was made that this phenomenon is related to the development of processes of diffusion "closing" microcracks which cause brittle failure of the material. 3 figures, 6 bibliographic references.
1/1



1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--HETEROGENEITY OF DEFORMATION DISTRIBUTION DURING CREEP AND
EXTENSION -U-
AUTHOR-(03)-RYBALKO, F.P., GUSEV, G.V., KONOVALOVA, YE.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 66-9
DATE PUBLISHED-------70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ALUMINUM, PLASTIC DEFORMATION, METAL CREEP, TENSILE STRESS,
POLYCRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1781
STEP NO--UR/0139/70/013/002/0066/0069
CIRC ACCESSION NO--AT0115610
UNCLASSIFIED

2/2 029 UNCLASSIFIED

CIRC ACCESSION NO--AT0115610 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING THE STATIC METHOD, THE QUANT. CHARACTERISTICS OF THE HETEROGENEITY OF DEFORMATION DISTRIBUTION DURING CREEP AND STATIC TENSION OF POLYCRYST. AL (99.8PERCENT PURE) WERE DETD. DURING CREEP THE HETEROGENEITY OF THE DISTRIBUTION OF MICRODEFORMATIONS ACCORDING TO THE DEGREES OF DEFORMATION IS CONTROLLED BY THE ELONGATION PROCESS AND, IN CONTRAST TO STATIC TENSION, IS ALMOST INDEPENDENT OF THE GRAIN SIZE, THE TEMP., AND THE ACTING LOAD. DURING THE CREEP PROCESS THE HETEROGENEITY OF THE DISTRIBUTION OF MICRODEFORMATIONS AT LARGE DEGREES OF DEFORMATION DEVELOPS MORE INTENSELY THAN DURING STATIC TENSION.

IM. GOR'KOGO, SVERDLOVSK, USSR. FACILITY: URAL. GOSUNIV.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720014-1"

RYBALKO, Ye. F.

So: JPRS 53103
12 May 71

CAPACITY OF SHORT-TERM MEMORY OF LETTER STIMULI

Ye. F. Rybalko, M. G. Petrova (psychology)

PP 16-21

This investigation had the purpose of determining the capacity of short-term memory for letter stimuli in dependence upon quantitative and spatial factors.

In the experiments a LETI-65 projector was used to show individual letters on a screen for 500 milliseconds. Thirty people, men and women aged 20-27, participated in the experiments. The series contained 25 letters of the Russian alphabet, and all frames differed in quantitative composition and in the spatial location of test objects. From four to 20 letters were presented simultaneously during the experiments, and the number of recalled letters, errors, and the time for completing each problem were recorded.

Analysis of the experimental material obtained showed that the capacity of short-term memory is equal to 1.7 letters on the average, if all the data is considered. Only 5.5 percent of the test subjects gave correct answers when the frame containing four letters was shown. In the other cases only a portion of the objects seen was recalled.

Further analysis showed that the absolute memory capacity is not a constant but changes with different quantitative gradations of the stimulus, showing a tendency for a certain increase. This was expressed by the fact that when the number of letter stimuli was increased by five times the absolute capacity of memorized literal material approximately doubled (from 1.1 to 2.3 units).

Computation of the relative number of correctly recalled letters showed that the relative accuracy of recalling one letter decreases as the numerical content of a projected image increases, in which case the rate of deterioration of accuracy in recalling individual letters was found to be unsteady. At the beginning, when four to 10 letter symbols are shown, the level of accuracy decreases significantly (by more than two times). Later, as the number of letters shown is increased to a range of 10-20 objects, the level of accuracy of recall for a single letter hardly changes at all (Table 1).

Thus the dependence of short-term memory of letter stimuli on the quantitative factor is exposed through a showing of a relatively small numerical content of objects.

USSR

UDC 613.644:016.6

GUZEYEV, O. Ye., KALUGIN, G. P., and RYBALKO, N. S., All Union Scientific Research Institute of Scientific Instrument Building

"Complete Laboratories for the Study of Vibration and Noise"

Moscow, Gigiyena i Sanitariya, No 4, 1970, pp 100-101

Abstract: The authors designed three types of laboratories capable of (i) measuring noise and vibration in industrial and public buildings, stores, restaurants, and schools, and (ii) checking on the accuracy of apparatus used for this purpose by minicipal and rayon sanitary epidemiological stations. The first and most fully equipped, Vibroshum I, is intended for Moscow, Leningrad, and republic sanitary epidemiological stations; the smaller Vibroshum II and Vibroshum III are intended for kray, oblast, and large-city, and for rayon and small-city sanitary epidemiological stations, respectively. The instruments and equipment are listed for the different types of laboratories. The modular structure of the laboratories makes it possible for an organization to acquire only those units that it needs, and to replace or add to them whenever desired.

1/1

USSR

KOLOT, V. YA., TATUS, V. I., RYBALKO, V. F., FOGEL, YA. M., VODOLAZHCHENKO, V. V., and YEVSEYEV, V. M., Engineering Physcis Institute, Academy of Sciences Ukrainian SSR, Khar'kov

"Effect of Oxygen Pressure on the Initial Stage of Molybdenum Oxidation"

Leningrad, Fizika, Tverdogo Tela, Vol 13, No 6, 1971, pp 1521-1524

Abstract: The effect of oxygen pressure on the initial stage of oxidation of molydbenum was investigated using the technique of secondary ion-ion emission. Molybdenum strips were heated in vacuum up to a temperature of 1900°K, which completely cleaned their surfaces for the absorbed particles and particles of surface compounds. Each experiment began with the molybdenum surface brought to atomic purity. Then the molybdenum temperature was reduced from 1900°K to a temperature at which the experiment was conducted: namely, the range 300-1900°K. The kinetics of oxide accumulation on the surfaces of molybdenum strips was studied: the current I of a beam of secondary ions driven off from the oxide molecule under study was plotted as a function of time t. The oxygen pressure was varied within the limits $5 \cdot 10^{-8}$ - $1 \cdot 10^{-6}$ torr. The following ion species were investigated: MoO_2^+,

USSR

KOLOT, V. YA., et al., Fizika Tverdogo Tela, Vol 13, No 6, 1971, pp 1521-1524

MoO_3^-, $Mo_2O_3^+$, $Mo_2O_6^+$, and Mo_2O^+. An increase in oxygen pressure leads to the following: 1) a shortening of the latency. (time interval between the onset of oxygen adsorption and the instant of oxide formation on molybdenum surfaces); 2) a shortening of the time interval required for an equilibrium oxide film to form on surfaces; and 3) increased oxide concentration. The condition of the surface film (composition and concentration of oxides) is reproducible and reversible with variation in temperature and oxygen pressure. This indicates that the oxide film consists of a layer of surface oxides.

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UDC 614.47:[616-058.9:355.37

USSR

RYBALKO, V. V., Lt-Col Med Serv

"Simultaneous Immunization of Young People Against Tuberculosis, Smallpox, Typhoid, and Tetanus"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 5, May 71, pp 69-71

Abstract: In a preliminary study with 90 rabbits, it was established that a complex vaccine does not suppress the production of antibodies against smallpox, typhoid, and tetanus, and that such a vaccine does not affect the action of BCG vaccine. In addition, the frequency and intensity of development of a postvaccinal allergy are not affected, and the resistance of the rabbits to infection with a virulent culture of tuberculosis mycobacteria is not reduced. The vaccine was tested on people who had received previous smallpox vaccination and were ready for a booster shot. The subjects had not been immunized against the other infectious diseases under consideration. Prior to the vaccination, none of the subjects exhibited any pathological changes in the lungs and their tuberculin tests were negative. The experimental subjects were divided into three groups and immunized as follows: group I (152 persons) with smallpox and TABte vaccine (typhoid A and B and tetanus)

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RYBALKO, V. V., Voyenno-Meditsinskiy Zhurnal, No 5, May 71, pp 69-71

group II (87 persons) with BCG vaccine, group III (149 persons) with BCG, smallpox, and TABte vaccines. The doses used were conventional ones. Local reactions to BCG vaccine were evaluated after 3 weeks, and tuberculin tests were run after 3 months. Typhoid antibodies were determined by the Widal reaction; the antibodies to the tetanus component of the TABte vaccine were determined by indirect hemagglutination. It was found that the mean geometric titer of typhoid antibodies was the same in experimental and control groups before and after immunization. The titers of smallpox antibodies were higher in the control group, before and after immunization, but their increase within the groups was practically the same(by factors of 5.74 and 5.81, respectively). The titer of tetanus antibodies was 1.45 times higher in the group vaccinated with all test vaccines. Nevertheless, in the control group, there were 1.3 times more background sera not containing any antibodies, which may have caused the lower titers after immunization. The seven-month tests showed that complex vaccine has no harmful effect and is as effective in each case as the individual vaccination.

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1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REASONS FOR THE INFLUENCE OF LOW TEMPERATURE TEMPERING ON THE STRESS RUPTURE STRENGTH OF ALLOYS BASED ON NICKEL AND CHROMIUM -U-

AUTHOR-(03)-BELYATSKAYA, I.S., RYBALOV, R.G., TUMANOVA, N.G.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1) 186-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM ALLOY, ALLOY DESIGNATION, NICHROME ALLOY, METAL CREEP RUPTURE STRENGTH, ELECTRON MICROSCOP, RESISTIVITY, NICKEL BASE ALLOY/(U)EI437 NICKEL BASE ALLOY, (U)EI617 NICKEL BASE ALLOY, (U)EI698 NICKEL BASE ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0697 STEP NO--UR/0126/70/029/001/0186/0188

CIRC ACCESSION NO--AP0105673

UNCLASSIFIED

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0105673 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEW DATA WERE OBTAINED ON ALLOY EI698 (WHICH DIFFERS IN COMPN. FROM ALLOY EI617), THEREBY CONFIRMING THE INCREASE OF LONG TERM STRENGTH AS A RESULT OF LOW TEMP. TEMPERING IN ADDN. TO CONVENTIONAL HEAT TREATMENT. BASED ON ELECTRON MICROSCOPIC STUDIES, THE EFFECT OF THE LOW TEMP TREATMENT IS NOT ASSOCD. WITH THE ADDNL. PPTN. OF THE STRENGTHENING PHASE. AFTER TEMPERING AT 775DEGREES THE SP. ELEC. RESISTIVITY OF THE ALLOY EI698 DECREASES AS COMPARED TO THE QUENCHED STATE; AFTER LOW TEMP. TEMPERING IT INCREASES, AND DOES NOT GO ON DECREASING, AS ONE WOULD EXPECT TO HAPPEN UPON ADDNL. PPTN. OF THE GAMMA PRIME PHASE. THE INCREASE IN ELEC. RESISTIVITY IS APPARENTLY CAUSED BY THE SAME PROCESSES WHICH ALSO TAKE PLACE IN NICHROME, AND ALLOYS EI437 AND EI617. AN EXPLANATION IS OFFERED FOR THE ROLD OF LOW TEMP. TEMPERING: DURING LOW TEMP. TEMPERING THERE PROCEEDS THE FORMATION OF ORDERED REGIONS IN THE MATRIX SOLID SOLN., AND THE CRIT. TEMP. OF THE ORDERING LIES SOMEWHAT HIGHER THAN THE OPERATING TEMP. AT THE OPERATING TEMP. THE FORMATION OF ORDERED REGIONS FOR ALL PRACTICAL PURPUSES DOES NOT TAKE PLACE IN THE QUENCHED ALLOY. THESE FORM DURING THE LOW TEMP. TEMPERING AT A NOTICEABLE RATE, AND ARE THEN PRESERVED WITH INCREASED TEMP. TO THE OPERATING TEMPS.

UNCLASSIFIED

USSR

UDC 616.936-084.4-036.8(574)

RUSSINA, YE. K., GROSHKOVA, I. M., and RYBALOVA, R. N., Ministry of Health Kazakh SSR; Kazakh Institute of Epidemiology and Microbiology; Republic Sanitary-Epidemiological Station

"Results of Malaria Control in the Kazakh SSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 6, Nov/Dec 72, pp 687-689

Abstract: In 1954 malaria as a mass disease had been eliminated in the whole of the Kazakh SSR with the exception of Eastern Kazakhstan Oblast'. The number of malaria cases in that year was 14.6 per 100,000 population. It decreased to 0.6 per 100,000 population in 1960 (59 cases, of which 25 were of foreign origin) and 169 cases in 1961-67, of which 74 were of local origin. In 1968 there was not a single case of malaria of local origin. Although malaria has been practically eliminated since 1960 in Kazakhstan, just as in the whole of the USSR, vigilance is indicated because of the possibility of importation of the infection from abroad and increased chances for breeding of mosquitoes in connection with the expansion of irrigated agriculture and the construction of water reservoirs. Preventive measures are being carried out in areas of irrigated fields, regions in which rice is grown, and areas in which water reservoirs and hydraulic engineering installations are being constructed.

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USSR

UDC:536.4.46

YERSHIN, Sh. A., RYBALOVA, R. P., SARSENBAYEV, Zh.

"Aerodynamics of Gas Streams and a Flame in a Homogeneous Wake (Isobaric and Gradient Flows)"

Probl. Teploenerg. i Prikl. Teplofiz. [Problems of Thermal Power Engineering and Applied Heat Physics -- Collection of Works], No 9, Alma-Ata, Nauka Press, 1973, pp 131-141 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 11, 1973, Abstract No 11.34.29, from the resume)

Translation: Results are discussed from a study of a nonisothermal stream and a gas flame at high wake-flow parameters. Isobaric and gradient flows are studied. An explicit expression of the dependence of effective coordinate $\xi(x)$ is produced and introduced in the method of the equivalent problem from the theory of heat conductivity as a function of the main flow parameters. The method of the equivalent problem from the theory of heat conductivity is extended to gradient and jet flows. The results of calculation agree satisfactorily with experimental results. 5 Figures; 2 Tables; 11 Biblio. Refs.

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1/2 011 UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--AUTOMATED CONTROL SYSTEMS IN CONSTRUCTION -U-

AUTHOR-(02)-VAYNSHTEYN, B., RYBALSKIY, V.

R

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, VOPROSY EKONOMIKI, NO 2, FEB 70, PP 85-93

DATE PUBLISHED----FEB70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--GENERAL CONSTRUCTION, AUTOMATIC CONTROL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0837 STEP NO--UR/9109/70/000/002/0085/0093

CIRC ACCESSION NO--AP0105742

UNCLASSIFIED

2/2 011 UNCLASSIFIED

CIRC ACCESSION NO--AP0105742 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS ARTICLE THE AUTHORS ATTEMPT TO SHOW SOME OF THE REASONS WHY THE INTRODUCTION OF SUCH SCIENTIFIC METHODS AS AUTOMATED CONTROL SYSTEMS INTO THE CONSTRUCTION INDUSTRY HAS BEEN SO SLOW AND SO OFTEN UNSUCCESSFUL AND TO MAKE SOME POSITIVE PROPOSALS ON THE PROBLEM.

UNCLASSIFIED

USSR

RYBANIN, S. S.

UDC 536.46:533.6

"Toward a Theory of the Combustion of Fuel Droplets in a Fixed Medium and in an Oxidizer Flow"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 212-220 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B959)

Translation: A method for solving the equations describing the combustion of fuel droplets in an oxidizer atmosphere is presented. Cases of quasistationary combustion of the droplets in a fixed atmosphere and in the flow of the oxidizer are discussed. Typical interrelationships between the parameters of this process are illustrated. Critical conditions for ignition and extinguishing of the droplet are obtained. 8 ref. Author's abstract.

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1/2 046 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF CHEMICAL KINETICS ON THE COMBUSTION RATES OF A FUEL PLATE IN A TURBULENT OXIDIZER FLOW -U-

AUTHOR-(02)-KUSTOV, YU.A., RYBANIN, S.S.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA GORENIIA I VZRYVA, VOL. 6, MAR. 1970, P. 54-64

DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--COMBUSTION RATE, CHEMICAL REACTION KINETICS, TURBULENT FLOW, BOUNDARY LAYER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605017/E11 STEP NO--UR/0414/70/006/000/0054/0064

CIRC ACCESSION NO--AP0140762

UNCLASSIFIED

2/2 046 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140762

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL STUDY OF THE EFFECT OF THE OXIDIZER FLOW DENSITY AND PRESSURE ON THE COMBUSTION RATES OF SHEETS OF FUEL IN A TURBULENT OXIDIZER FLOW. THE STUDY ASSUMES AN IDEALIZED BURNING PROCESS IN A TURBULENT BOUNDARY LAYER DURING WHICH VAPORIZED FUEL MOVES INTO THE BOUNDARY LAYER TO REACT WITH THE OXIDIZER. EQUATIONS OF CONSERVATION OF MASS, MOTION AND ENERGY IN THE BOUNDARY LAYER AND A DIFFUSION EQUATION ARE DERIVED AND ANALYZED. CURVES ARE PLOTTED TO SHOW THE DYNAMICS OF COMBUSTION RATES ALONG THE LENGTH OF FUEL SHEETS VS THE PARAMETERS OF THE COMBUSTION PROCESS.

UNCLASSIFIED

USSR

UDC: 51

DUDNIKOV, Ye. Ye., RYBASHOV, M. V.

"Analog Computer Solution of Operational Production Control Problems"

V sb. Avtomaty, gibridn. i upravlyayushch. mashiny (Automata, Hybrid and Control Computers--collection of works), Moscow, "Nauka", 1972, pp 211-222 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V587)

Translation: Various problems of using analog computers for solving operational control problems are considered. Important in this regard are the accuracy of the solution, the maximum dimension of the problems solvable on standard analog computers, and the speed of obtaining the solution. Economic schemes are proposed for analog computer solution of certain problems. These schemes are based on the use of both general purpose and specialized analog computers. The paper gives the anaolg computer solution for two practical problems in operational control -- optimum compounding of liquid fuels, and optimum constitution of the raw material in a cement plant. Authors' abstract

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USSR

UDC: 51

DUDNIKOV, Ye. Ye. and RYBASHOV, M. V.

"Solving Operative Production Control Problems on an Automatic Computer"

Moscow, V sb. Avtomaty, gibridn. i upravlyayushch. mashiny (Automatons, Hybrid and Control Machines--collection of works) 1972, pp 211-222 (from RZh--Matematika, No 8, 1972, Abstract No 8V587)

Translation: Various problems in the use of automatic computers for solving operative control problems are considered. The important ones are the accuracy of the solution, the maximum dimensions of the problems solvable on standard automatic computers, and the rapidity with which the solution is obtained. Economic systems are proposed for solving vector problems on the computer, based on the use of general-purpose machines as well as special analog equipment. With the aid of the automatic computer a solution is given for two practical problems in operative control: the optimal compounding of liquid fuels, and the optimal makeup of raw-material mixtures for the refining section of a cement plant. Authors' abstract

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USSR

UDC 616.981.42-022.1-092.9-097.5

TARAN, I. F. and RYBASOV, N. A., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus and Stavropol Medical Institute

"Comparison of the Susceptibility and Infectious Sensitivity of Laboratory Animals and Sheep to Different Species of the Agent of Brucellosis"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 97-101

Abstract: Studies were conducted on the susceptibility (ability to be infected, i.e., capacity of the agent to survive and spread to organs and tissues) and infectious sensitivity (intensity of the pathological process after entry of Brucella into the organism) of guinea pigs, mice, rats, and sheep to three virulent Brucella species - Bu. suis 1130, melitensis 16-M, and abortus 544. All the animals were susceptible, showing only slight differences according to the Brucella species tested. However, the animals differed considerably in degree of infectious sensitivity. Guinea pigs and mice exhibited the greatest susceptibility and infectious sensitivity. The sheep and particularly the rats were resistant to infection with all the Brucella species, but experienced only moderate pathological changes after infection with massive doses.

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USSR

UDC 616.981.42-022.39:576.851.42.063

TARAN, I. F., and RYBASOV, N. A., Scientific Research Antiplague Institute of Caucasus and Transcaucasus and Stavropol' Medical Institute

"Possible Means of Spread and Evolution of Brucella"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71, pp 34-38

Abstract: On the basis of data accumulated on the taxonomy of Brucella and their circulation among domesticated and wild animals, it can be safely assumed that Brucella arose a long time before the development of wild ungulates. The second stage of Brucella evolution was associated with ungulates, and the third stage began with the domestication of cattle and other animals. Brucella cultures isolated from wild rodents in natural foci of brucellosis are phylogenetically closest to the ancestral Brucella strain. Original research data indicate that the most suitable strains for the preparation of vaccines are Brucella of the greatest phylogenetic age, which have the greatest adaptive capacity.

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USSR UDC 61:355.58

RYBASOV, V. A.

Moscow, Organizatsiya Meditsinskoy Sluzhby Grazhdanskoy Oborony. Posobiye Dlya Vrachey Lechebno-Profilakticheskikh Uchrezhdeniy (Organization of Medical Service for Civil Defense. Manual For Physicians of Therapeutic-Prophylactic Establishments), "Meditsina," Moscow, 1970, 128 pp

Translation: Annotation: The effective organization of medical service for the civil population under conditions of the possible utilization of weapons of mass destruction is not possible unless the medical workers possess an adequate concept of, the damaging effect of these weapons, the possible structure and character of the injuries inflicted on the civil population, and the medical and tactical characteristics of the foci of mass destruction which develop.

The general characteristics of nuclear, chemical, and bacteriological weapons, are described in the book with the possible structure of sanitary losses, and their characteristics. Foci of mass destruction on utilization of these weapons are also described.

The danger that in modern warfare, along with the usual weapons, weapons of mass destruction, primarily rocket-nuclear weapons, will be used not only against troops, but throughout the entire territories of the warring countries

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USSR

RYBASOV, V. A., Organization of Medical Service for Civil Defense. Manual for Physicians of Therapeutic-Prophylactic Establishments), Moscow, "Meditsina," 1970, 128 pp

led to the organization of a new strategic type of defense , civil defense. One of the most important services of Civil Defense is the medical Service, which performs its taks in cooperation with the other services of the civil defense system.

The basic problem of the civil defense medical service is the organization and implementation of a system of special therapeutic and prophylactic, anti-epidemic, and sanitary hygiene measures. The purpose of these measures is to render to the affected population all types of medical assistance for the earliest restoration of health, resumption of work, reduction of invalidism and the mortality rate, prevention of the development and spread of mass infectious diseases, and the elimination of unfavorable sanitary consequences of the use of weapons of mass destruction by the enemy.

The civil defense medical service is organized around the organs and all establishments of the public health system and with the enlistment of wide masses of the population. Sanitation brigades, first-aid detachments, detachments and separate brigades of special medical assistance, mobile anti-epidemic detachments, and main and prophylactic hospitals in the suburbs are

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USSR

RYBASOV, V. A., Organization of Medical Service for Civil Defense. Manual for Physicians of Therapeutic-Prophylactic Establishments), Moscow, "Meditsina," 1970, 128 pp

are organized for the purpose of rendering all types of medical help.

The organizational-staff structure, designation and organization of the work of all of these formations and establishments of the civil defense medical service in various foci of mass destruction are described in the book.

Table of Contents

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USSR

UDC 632.95

KURILENKO, L. K., CHERKASOV, V. M., PRIKAZCHIKOVA, L. P., RYBCHENKO, L. I., CHEREPENKO, T. I.

"Insecticidal and Fungicidal Activity of 4-N-substituted 5-nitro-6-aminopyrimidine and 6,8,9-substituted Adenine"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 91-93 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N472)

Translation: The test results indicate that the derivatives of purine (I) and pyrimidine (II) exhibit significant insecticidal activity; 4-NH_2-5-NO_2-6-PhNH-II and 8-cyclohexyl-substituted and 8-chlorophenyl-substituted I, and the 8-methylkinetine isomer cause a 90-100% death rate of houseflies.

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USSR

UDC 632.95

VLADIMIRTSEV, I. F., KARABANOV, Yu. V., KHRIPKO, S. S., RYBCHENKO, L. I., CHEREPENKO, G. I.

"Biological Activity of Substituted α'-nitrostilbenes"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 139-142 (from RZH-Khimiya, No 2 (II), Feb 73, Abstract No 2N507)

Translation: In order to obtain plant growth regulators and fungicides, a number of derivatives of styrene and stilbene were synthesized; $PhCH=CH_2$ suppresses the growth of oat roots in a concentration of 0.01% by 56%, and in a concentration of 0.001%, by 60%, and it suppresses the leaf growth by 45 and 21% respectively. The $PhCH=C(NO_2)Ph$ (I) has a significant inhibiting effect. In a 0.01% concentration it suppresses the growth of oats and lettuce by 79%. The $PhCH=CHNO_2$ not only suppresses growth but causes the plants to die. The fungicidal activity of I approaches that of figon; π-Br- and π-Cl-I are of practical interest as root and stalk growth stimulators.

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USSR

UDC 632.95

PRIKAZCHIKOVA, L. P., RYBCHENKO, L. I., KURILENKO, K. K., CHERKASOV, V. M., CHEREPENKO, T. I.

"Insecticidal and Fungicidal Activity of Certain Derivatives of Pyrimidine-Carboxylic Acids, Methyl and Styryl Pyrimidines"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 89-91 (from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N473)

Translation: Results are presented from tests under laboratory conditions of derivatives of pyrimidine carboxylic acids, methyl and styryl pyrimidines. The majority of the tested compounds are weak insectofungicides. The 2,6-dichloro-4-methylpyrimidine 100% suppresses Alternari radicina, Aspergillus niger, Fusarium oxysporium, Venturia inaequalis and Helminthosporium. On replacement of the Cl atoms by OH, the fungicidal activity drops significantly; 2-styrylpyrimidine inhibits the growth of fungus mycelium in a concentration of 0.1 and 0.05% by 100%; 4-methyluranyl in a concentration of 1% causes 67% death of houseflies, and 5-bromo-2-methylprimidine, 100%.

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USSR

UDC 632.937.595.768

RYBCHIN, V. Ye., Senior Instructor, Chair of Zoology, Novozybkovskiy Pedagogical Institute

"Microbiological Method of Controlling the Lupine Weevil"

Moscow, Zashchita Rasteniy, No 11, 1970, pp 19-20

Abstract: Various investigations have established a high mortality rate among lupine weevils from the fungus Beauveria bassiana. Pure beauverin and beauverin in combination with chlorophos, polychloropinene, and DDT have been tested in the control of lupine weevils at the Novozybkovskaya Experimental Station since 1967 and at the Agrobiological Station of the Novozybkovskiy Pedagogical Institute since 1968. Yellow fodder lupine was planted on a section of 0.01 hectares. The area was then sprayed with liquid insecticides twice, with an interval of 10 days. The number of dead weevils was determined on the 3rd, 6th, and 9th days after each spraying. The experiments established that a combination of 1.5 kg beauverine and 0.5 kg chlorophos was highly effective, killing 77.2% of weevils in the first spraying, and 88.7% in the second spraying.

1/1

1/2 034 UNCLASSIFIED

TITLE--BLOOD CLOTS ARE OPERABLE -U- PROCESSING DATE--09OCT70

AUTHOR--RYBCHINSKIY, YU.

COUNTRY OF INFO--USSR

SOURCE--ALMA ATA, KAZAKHSTANSKAYA PRAVDA, 25 MAR 70, P 3

DATE PUBLISHED--25MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AUTOTRANSPLANTATION, BLOOD VESSEL, BLOOD COAGULATION, ARTIFICIAL ORGAN, TEFLON, EXPERIMENTAL SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1111 STEP NO--UR/9004/70/000/000/0003/0003

CIRC ACCESSION NO--AN0109230

UNCLASSIFIED

2/2 034 UNCLASSIFIED

CIRC ACCESSION NO--AN0109230 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYSICIANS AT THE MOSCOW INSTITUTE OF CLINICAL AND EXPERIMENTAL SURGERY HAVE DEVELOPED A METHOD OF AUTOTRANSPLANTATION OF BLOOD VESSELS TO AVOID DIFFICULTIES ASSOCIATED WITH SYNTHETIC VESSELS, WHICH PROMOTE BLOOD CLOT FORMATION IN HUMAN EXTREMITIES. FOR EXAMPLE, A DAMAGED BRAIN VESSEL MIGHT BE REPLACED WITH SKIN ARTERIES, OR KIDNEY VESSELS WITH LARGE SUBCUTANEOUS VEINS. SYNTHETIC VESSELS MADE OF TEFLON OR SOME OTHER MATERIAL ARE USED TO REPLACE THE DONOR VESSELS, WHICH ARE IN NONCRITICAL AREAS. CANDIDATE OF MEDICAL SCIENCES MARAT KNYAZEV, HEAD OF THE VASCULAR DEPARTMENT OF THE INSTITUTE, DESCRIBED A NEW OPERATION IN WHICH THE OBSTRUCTED BLOOD VESSEL IS CLEARED AND THEN SEWN BACK IN. THIS METHOD IS USED FOR ACUTE VASCULAR INJURY, AND RESULTS IN RAPID NORMALIZATION OF CIRCULATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720014-1"

USSR

UDC 536.423

RYBCHTSNSKAYA, G. B., KOBALEV, S. A.

"The Influence of the Transitional Boiling Mode on Propagation of Temperature Pulsations in a Rod"

Teplofizika Vysokikh Temperatur, Vol 9, No 6, 1971, p. 1226-1229.

Abstract: The problem is formulated of the propagation of temperature pulsations along a heat-conducting rod, on the surface of which a transitional boiling mode of a liquid is maintained, when there is a source of harmonic temperature oscillations at the free end and heat is applied to the root. The problem is reduced to determination of the dependence of the pulsation component in surface temperature on time and coordinates. It is demonstrated that the amplitude of the oscillations, due to the pecularities of heat transfer in the transient mode, can increase with decreasing distance from the root of the rod with a sufficiently high value of the constant characterizing the transitional boiling mode.

1/1

USSR

UDC: 620.172.2

Kozlov, I. A., Semirog-Orlik, V. N., Rybenok, G. V.

"Study of the State of the Structure of Turbine Disc Materials Following Use"

Kiev, Problemy Prochnosti, No 7, 1972, pp 86-90.

Abstract: The state of the structure of turbine disc material is studied following use. It is demonstrated that after extended operation under normal operating conditions, the structure of the material undergoes no significant changes in comparison with its initial structure.

1/1

RYBENOK, G. V.

JPRS 55917
15 May 72

INVESTIGATION OF THE CONDITION OF TURBINE DISC MATERIAL AFTER OPERATION

UDC 620.171

[Article by I. A. Kozlov, V. N. Rudenko, G. V. Rybenok; Kiev, Problemy Prochnosti, Russian, No 7, 1971, signed to press 17 November 1970, pp 78-82]

An increase in the service life of transport gas turbine engines and an increase in their reliability should be based on investigations of the character of change of the properties of the material as a function of the time and conditions of engine operation.

The metal of modern gas turbine engines operates under complex loading conditions, which create variable stresses under the influence of variable temperatures. Investigation of the behavior of material under these conditions involves tremendous procedural difficulties and is accomplished basically in application to individual simple loading conditions [1]. The tests presently in use for specimens under conditions approaching operational conditions by no means completely reflect all factors of the actual load condition.

The problem of determining the predominant mechanism of residual changes, accumulation of which leads a part to the limiting state, requires analysis and comparative evaluation of the changes that occur in the metal during operations performed on parts. It is also essential to evaluate the state of the material after operation under real conditions in order to employ the methods of abbreviated service life tests.

We investigated turbine discs after 2,221 and 2,934 hours of operation, a new disc of the same stage and engine and a turbine disc from another engine that had undergone stand tests with a summary operating time of 143 hours.

The discs, made of EI437BUVD alloy, were heat treated as follows: hardening from 1,080°C for 8 hours, cooling in air, aging at 780°C for 16 hours, cooling in air.

For preparation of blanks for the specimens the discs were cut on anodo-mechanical machines with the maintenance of the standard tolerances

1/2 008 UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--CUPOLA FUEL FROM LEAN COALS FROM THE KUZNETSK BASIN -U-

AUTHOR-(05)-RYABICHENKO, A.D., DINEL, V.M., MOSIN, S.V., LEVDIN, V.P., MANUKHOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, (1) 38-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--COAL, SULFUR, COKE, CAST IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0111 STEP NO--UR/0128/70/000/001/0038/0039

CIRC ACCESSION NO--AP0102201

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102201

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COKE MADE BY SLOW HEATING OF THE TITLE COAL TO 1000DEGREES WAS EVALUATED IN A CUPOLA FURNACE. IT PRODUCED AN INCREASE IN GAS PERMEABILITY OF THE CHARGE, AND INCREASE IN GAS PERMEABILITY OF THE CHARGE, AN INCREASE IN THE GAS TEMP., A DECREASE IN THE CO-CO SUB2, AN IMPROVED HEAT EXCHANGE, A HIGHER METAL TEMP., AND A LOWER S CONTENT IN THE PRODUCT.

UNCLASSIFIED

USSR

UDC 621.793.72.016-982:[669.58+669.738

ROYKH, I. L., Doctor of Chemical Sciences, Professor, RAFALOVICH, D. M., Candidate of Physical and Mathematical Sciences, Reader, RYBIN, B. S., Engineer, PUSTOTINA, S. R., Candidate of Technical Sciences, and BELORITSKAYA, Ye. L.

"Increasing the Adhesion Strength of Zinc and Cadmium Coatings Applied to Steel by Vacuum Evaporation"

Moscow, Vestnik Mashinostroyeniya, No 1, Jan 71, pages 62-64

Abstract: It is demonstrated that good adhesion between coating and steel can be produced after heating of steel in a vacuum. In order to produce good adhesion of zinc and cadmium coatings on chemically pure steel (when strong heating is undesireable), thin sublayers of lead can be used. Three condensation modes are presented, all providing satisfactory adhesion of zinc and cadmium to steel. The modes consist of chemical or electrochemical surface preparation, heating in a high vacuum (10^{-4}-10^{-5} mm Hg) to 450°C and higher and at 10^{-3} mm Hg to 620°C and higher, then cooling of the steel to 50-200°C, followed by application of the coating; heating of the steel in a vacuum chamber to 270-300°C, then application of a lead layer 2-4 microns

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USSR

UDC 621.793.72.016-982:[669.58+669.738

ROYKH, I. L., Doctor of Chemical Sciences, Professor, RAFALOVICH, D. M., Candiate of Physical and Mathematical Sciences, Reader, RYBIN, B. S., Engineer, PUSTOTINA, S. R., Candidate of Technical Sciences, and BELORITSKAYA, Ye. L., Moscow, Vestnik Mashinostroyeniya, No 1, Jan 71, pages 62-64

thick under a vacuum of 10^{-3}-10^{-5} mm Hg, after which the steel is cooled to 50-200°C and the zinc or cadmium is applied; chemical or electrochemical preparation of the surface, heating to 250-300°C under a vacuum of 10^{-3}-10^{-5} mm Hg, followed by application of the zinc to the heated surface of the steel. The last mode can be used when the parts will not be strongly deformed.

2/2

1/2 010 UNCLASSIFIED

TITLE--ANALYSIS OF IMPURITIES IN GASES -U- PROCESSING DATE--16OCT70

AUTHOR-(05)-RYBIN, E.N., KOGAN, YA.I., KOZHEVNIKOV, A.C., LYUSBAKUNIN, G.G., PANKRATOVA, N.E.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,484

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--26JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, AMINO ALCOHOL, CHEMICAL PURITY, GAS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0182 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0114568

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0114568

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE METHOD OF ANALYZING THE IMPURITIES IN GASES DESCRIBED IN U.S.S.R. 262,484, THE LEVEL OF DETECTION OF CONDENSATION NUCLEI, CONTG. MOLS. OF AN ACID OR AN ANHYDRIDE, IS INCREASED BY USING AMINO ALCS.

UNCLASSIFIED

USSR

UDC 531.1.03+577.3

RYBIN, I. A., Ural State University, Sverdlovsk

"Difference in Plant Responses to the Turning On and Off of Light"

Moscow, Doklady Akademii Nauk SSR, No 5, 1973, pp 1239-1241

Abstract: Corn seedlings were kept in the dark for one hour and exposed alternately to light and darkness for 30 minutes. The roots were then treated with a solution of a photosynthesis inhibitor -- diuron [3(3,4-dichlorophenyl)-1,1-dimethyl urea) -- or respiration inhibitor -- cyanide (KCN). The plants were again exposed to light and darkness after the oscillations of biopotential induced by the inhibitors ended. The effect of diuron on the response to turning on of the light was manifested by a change in the correlation of the first two phases of the photic reaction: a sharp decrease in the first positive wave and a deepening of the following negative deviation. Diuron, on the other hand, did not alter the correlation of the subsequent phases of the response but slightly reduced their amplitude. KCN decreased the first negative wave of the response to the turning off of the light and deepened the subsequent positive deviation. It scarcely altered the plant's response to the turning on of the light; it only

USSR

RYBIN, I. A., Doklady Akademii Nauk SSR, No 5, 1973, pp 1239-1241

increased the amplitude slightly. The changes induced by the two agents are ascribed to nonspecific inhibition similar to that resulting from the action of factors that cause a general lowering of functional activity, e.g., high temperatures and low CO_2 concentrations in the air.

2/2

USSR

UDC 547.241

NESMEYANOV, A. N., RYBIN, L. V., GUBENKO, N. T., PETROVSKIY, P. V., and RYBINSKAYA, M. L., Institute of Elemental Organic Compounds Academy of Sciences USSR

"The Reaction of Triphenylphosohine with Iron Carbonyl Complexes of β-Substituted α, β -Unsaturated Ketones"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2473-2477

Abstract: It was shown that the stability of the metal lignad bond in monoolefin π complexes of iron may be determined by the reaction of the complex with triphenylphsophine such as in the following reaction:

$$C_6H_5COCH{=}CHX + (C_6H_5)_3P \longrightarrow C_6H_5COCH{=}CHX + Fe(CO)_4 \quad Fe(CO)_3P(C_6H_5)_3$$
I II

$$+ C_6H_5CCH{=}CHX$$
$$O \quad Fe(CO)_2P(C_6H_5)_3$$
III

a) $X = COC_6H_5$, b) $X = COOCH_3$.

1/2

USSR

NESMEYANOV, A. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2473-2477

The reaction of trans dibenzoylmethylene and trans methyl esters of β-benzoyl-acrilic acid with triphenylamine in methyl alcohol and heptane in room temperature and at heating to 60-70°C resulted in the replacement of the CO ligand with the formation of complexes II and III above. The order of increasing ease of substitutions of the ligands is

$$-CO-CH=CH-CO < CO < -CH=CH-Co-.$$

From this it can be seen that the relative ease of substitution increases with the increasing strength of the π acids. Structures were confirmed by IR and NMR spectra.

2/2

Organometallic Compounds

USSR

UDC 548.737

KUZ'MINA, L. G., BOKIY, N. G., STRUCHKOV, YU. T., ARUTYUNYAN, A. V., RYBIN, L. V., and RYBINSKAYA, M. I., Institute of Metalorganic Compounds, Academy of Sciences USSR

"Structure of 3,6-Duphenylpyridazino-diferrum-triphenylphosphine-pentacarbonyl"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 5, Sep-Oct 71, pp 875-882

Abstract: To determine objectively the structure of diarylpyridazine complexes with iron carbonyls, a complete roentgenographic analysis of the monophosphine complex $[(C_6H_5)_2C_4H_2N_2]\cdot[Fe_2P\cdot(C_6H_5)_3(CO)_5]$ was carried out. The binuclear molecule contains $Fe(CO)_3$ and $Fe(CO)_2PPh_3$ groups connected with a Fe-Fe bond and two nitrogen bridge atoms of the pyridazine moiety. Fe atoms are of the octahedral coordination, they are highly strained due to the formation of tetrahedral cluster system Fe_2N_2. The crystals are monoclinic with a= 23.98, b = 18.34, c= 8.39 Å $\beta = 107°20'$, and $N = 4$. The structure was obtained by the heavy atom method and refined by the least squares method to R = 12%. The pyridine ring acts as a diazo-bridge between two iron atoms also connected by the metal- metal bond. The most interesting bond lengths are: Fe-Fe = 2.53; N-N = 1.43; Fe-N = 1.92 Å. 1/1

USSR

UDC: 546.289.172:542.65

RYBIN, R. A., and KIRGINTSEV, A. N., Institute of Inorganic Chemistry, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Producing Germanium Single Crystals in a Rotating Container. Report 3: Directed Crystallization under Conditions of a Sharp Temperature Gradient"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya AN SSSR, Seriya Khimicheskikh Nauk, Vyp. 6, No 14 (179), Nov 70, pp 27-32

Abstract: Data are given on the growth of germanium single crystals in a horizontal rotating container under conditions of a high axial temperature gradient (more than 100 deg/cm) in pure quartz containers and in quartz containers coated with carbon black. Crystal growing may be done at fairly high rates (15 cm/hr). Conditions are determined under which crystal growth takes place with and without renewal of the α-melt in pure quartz containers. It is shown that single crystals with low dislocation density can be grown over a longer section in quartz containers coated with carbon black than in pure quartz containers.

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USSR

UDC: 537.291

KANASHEVICH, V. I., LAPTEV, S. V., RYBIN, S. N., and CHURSIN, G. P.

"Measuring the Paths of Charged Particles in a Material"

Moscow, Pribory i Tekhnika Eksperimenta, No 4, July-August 1972, pp 43-45

Abstract: The instrument described in this paper is a further development of a device for measuring the path of charged particles in a material as a function of the particle energy. The method of the instrument involves measuring the energy spectrum of the particles in a cyclotron beam after their passage through a target using 30 pieces of the material. Drawings of the instrument are given, together with a textual explanation. The device was used to determine the energy of a beam on various materials in order to study excitation reaction functions evoked by deuterons on a ^{59}Co nucleus; a curve is plotted for the energy spectrum of the deuteron elastic scattering. A curve for the path of alpha particles in Al as a function of the particle energy is also shown. The work was done at the Institute of Nuclear Physics, Kazakh Academy of Sciences, at Alma-Ata.

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USSR

UDC: 621.384.6.5

ARZUMANOV, A. A., NEMENOV, L. M., ANISIMOV, O. K., BATALIN, S. S., VOLKOV, B. A., GROMOV, D. D., KRAVCHENKO, Ye. T., KRUGLOV, V. G., NIGMATOV, M. Kh., POPOV, Yu. S., PROKOV'YEV, S. I., and RYBIN, S. N.

"Isochronic Cyclotron With Controllable Ion Energy"

Alma-Ata, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4, 1973, pp 6-15

Abstract: A discussion of the isochronic cyclotron with controllable ion energy built around the U-150-2 accelerator installed in the Institute for Nuclear Physics of the Kazakh SSR Academy of Sciences in 1965 is given. Calculations of the fundamental parameters made with an electronic computer are presented, together with the results of a theoretical analysis, a large part of which was based on approximation methods. These results were verified by a numerical method. The description is given of a program developed for investigating and modeling the magnetic field on a mock-up with a scale of 1:3. An outline drawing of the magnetic arrangement is given, along with curves of the magnetic field. The current correction for the magnetic field is explained, with an illustrative photograph of the correction winding. Also discussed are the

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720014-1"

USSR

UDC: 631.384.6.5

(8)

ARZUMANOV, A. A., et al, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4, 1973, pp 6-15

high-frequency system and the slit-type ion source, the ions entering the accelerator chamber radially. Curves for the change in beam intensity for accelerated alpha particles are plotted as a function of the accelerator radius. A photograph of the area of installation, showing a beam of protons in air with an energy of 30 Mev, is reproduced together with a photograph of the equipment itself.

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USSR

UDC 621.9.048

NABANOV, A.N., PODGORNOVA, L.I., RYBIN, V.M.

"Measurement Of Instability Of Current Of Pulsed Electron Beam In Devices For Microprocessing Of Materials"

Tr. Mosk.in-ta elektron. mashinostr. (Works Of The Moscow Institute Of Electrical Machine Construction), 1970, No 9, pp 107-113 (from RZh:Elektronika i yeye primenenive, No 2, Feb 72, Abstract No 2A441)

Translation: The results of processing of materials in devices for pulsed microprocessing are determined to a considerable degree by the instability of the pulsed electron beam current. For direct measurement of the current instability, a pulsed voltage, separable at a resistor, and connected between the current collector and the "ground," was converted into direct voltage with the aid of an envelope detector and low-frequency filter. M.V.

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DISTRIBUTION OF KINKS IN A DISLOCATION SEGMENT -U-

AUTHOR--RYBIN, V.V.

R

COUNTRY OF INFO--USSR

SOURCE--FIZIKA TVERDOGO TELA, MAR. 1970, 12, (3), 729-738

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--ENTROPY, METAL CRYSTAL, CRYSTAL DISLOCATION PHENOMENON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0151 STEP NO--UR/0181/70/012/003/0729/0738

CIRC ACCESSION NO--AP0129407

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129407

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORY OF THE EQUILIBRIUM CONFIGURATION OF DISLOCATIONS IN METALLIC AND OTHER CRYSTALS IS PRESENTED WITH SPECIAL REF. TO THE QUESTION OF THE DISTRIBUTION OF KINKS ON DISLOCATION SEGMENTS. AN EXPRESSION IS DERIVED FOR THE CONFIGURATION ENTROPY OF KINKS INTERACTING WITH EACH OTHER IN ACCORDANCE WITH A SPECIFIED LAW IN A GIVEN STRESS FIELD; THIS ENTROPY APPROACHES THE VIBRATIONAL ENTROPY AT ABS. ZERO TEMP. IN LIMITING CASES THE THEORY AGREES WITH EXISTING VERSIONS.

UNCLASSIFIED

RYBIN, Yu. A.

JPRS 59208
6.73

III-7. GROWTH OF SINGLE CRYSTALS OF INDIUM ANTIMONIDE IN A ROTATING CONTAINER

[Article by A. N. Kirgintsev, B. A. Shlyafman, Yu. A. Rybin, Novosibirsk; Kristallizm i Fizicheskiye Svoystva Poluprovodnikov=Crystallization and Physical Properties of Semiconductors, Novosibirsk, Nauka, 1972, p 31]

The given paper is a component part of the experimental studies to apply the method of a rotating container to grow single crystals of semiconductors and other substances.

Single crystals of indium antimonide were obtained for the first time in a rotating container by zone melting.

The basic required conditions of growing the single crystals of indium antimonide in a rotating container were found.

The law of variation of the angle of inclination of the container on growth of single crystals by zone melting is described mathematically. The mechanism of programmed variation of the angle of inclination has been constructed.

Single crystals of indium antimonide which are homogeneous in volume have been obtained using zone equalization.

- 30 -

USSR

UDC 546.289-172:542.65

KIRGINTSEV, A. N., and RYBIN, Yu. A., Institute of Inorganic Chemistry, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Producing Germanium Single Crystals in a Rotating Container. Report 2: Separation of the Germanium Melt Into Layers"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya AN SSSR, Seriya Khimicheskikh Nauk, Vyp. 6, No 14, (179), Nov 70, pp 23-27

Abstract: When germanium single crystals are grown in a horizontal rotating container, the melt separates into two liquid layers -- the α-melt and β-melt -- when the following conditions are satisfied: 1. high temperature (about 1200°C in the heater) and a high temperature gradient (of the order of 200 deg/cm) on the walls of the container close to the crystallization front; 2. a free cavity above the melt at the crystallization front; 3. a definite order of melting of the charge. With respect to this third condition, the melting process must be started on the side opposite the seed crystal, after which the melting front is gradually moved toward the seed crystal. It was found that the α-melt usually extends for 15-20 mm, and that the length ratio for α- and β-melts is usually 0.15. In most cases, the α-melt is encased in a film. The film may be a dark one comprised of graphite dust, or a

USSR

KIRGINTSEV, A. N. and RYBIN, Yu. A., Izvestiya Sibirskogo Otdeleniya AN SSSR, Seriya Khimicheskikh Nauk, Vyp, 6, No 14, (179), Nov 70, pp 23-27

light one which is probably either an extremely thin skin of germanium or a thin film of germanium dioxide. In these cases, the boundary between layers is clear both where the germanium melt touches the walls and on the free surface. The α-melt and its interface with the β-melt can also be seen when there is no film. It was found that the β-melt is a stable melt of germanium and that the α-melt is unstable. The α-melt yields single crystals of high quality with a considerably lower dislocation density than the β-melt. In addition, the α-melt does not wet the walls of the container as well as the β-melt, and it is in the cooler section of the container. It is concluded that other materials might also separate into layers in the melt under similar conditions. This has been confirmed for antimony.

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USSR

UDC 548.55+512.65:546.289

KIRGINTSEV, A. N., and RYBIN, Yu. A., Institute of Inorganic Chemistry Siberian Division Acad. Sc. USSR, Novosibirsk

"The Growth of Germanium Monocrystals in Rotating Container. I. Communication. Crystalliztion Under Conditions of a Weak Axial Gradient of Temperature"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Khimicheskikh Nauk, No 12, Sep 70, pp 66-70

Abstract: Experimental results are reported on growing germanium monocrystals by directed crystallization in a horizontally rotating quartz container with a small axial temperature gradient -- 10-40°/cm. The crystallization was carried out at 1000°C, using polycrystalline germanium with a specific resistance of 0.01-60 ohm·cm, either crushed into small pieces or casted as a rod, occupying almost the entire container. It was determined that under above conditions the monocrystals may be grown best when there is a free cavity at the front of crystallization, such as when the container is moved at 3.8 cm/hr and rotated at $\geqslant$250 rpm. The monocrystals obtained show uniform distribution of specific resistance along their cross-section and large dislocation density ($\sim 10^6$ cm^2).

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--A PSEUDOTUMOROUS FORM OF CHRONIC PNEUMONIA -U-

AUTHOR-(05)-PRISS, B.N., FEOFILOV, G.L., SHUTSKAYA, YE.I., RYBINA, I.A., NEPOMNYASHCHIKH, G.I.
COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 54-60

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PNEUMONIA, CANCER, LUNG, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1859 STEP NO--UR/0497/70/048/003/0054/0060

CIRC ACCESSION NO--AP0125470
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125470
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ANALYZE OBSERVATIONS OVER 20 PATIENTS WITH A PROTRACTED PNEUMONIA, IN WHOM THE CLINCAL COURSE MORE CORRELATED WITH THE PICTURE OF PERIPHERAL LUNG CANCER. OUT OF 20 PATIENTS 16 UNDERWENT SURGICAL INTERVENTION. THE AUTHORS ASSOCIATE THE SYMPTOMS OF LUNG CANCER WITH PROFOUND ALTERNATIONS IN THE DRAINING BRONCHI (PANBRONCHITIS) IN THE INVOLVED PULMONARY SEGMENTS.
FACILITY: NOVOSIBIRSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--COMPLEXING OF COPPER,II, WITH EDTA -U-

AUTHOR-(03)-KORNEV, V.I., ASTAKHOV, K.V., RYBINA, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1311-13

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPPER COMPLEX, ETHYLENEDIAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0885 STEP NO--UR/0070/70/044/005/1311/1313

CIRC ACCESSION NO--AP0137913

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137913

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 1:1 COMPLEX OF CU PRIME2 POSITIVE WITH EDTA (H SUB4 A) IS FORMED. DEPENDING UPON THE PH, THIS COMPLEX EXISTS IN THE FORMS: CUH SUB3 A PRIME POSITIVE, CUH SUB2 A, CUHA PRIME NEGATIVE, OR CUA PRIME2 NEGATIVE. THE PH INTERVAL OF EACH FORM OF THE COMPLEX IS ESTABLISHED AND ITS INSTABILITY CONST. IS DETD.

FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.762.002.5(088.8)

ZHERDEV, A. V., VIYNTRAUB, S. S., RYBINOV, V. A., MOSIASHVILI, V. V., and TOKMAKOV, M. K.

"Installation for Granulation of Metal Melts"

USSR Author's Certificate No. 265152, Filed 27/01/69, Published 17/06/70 (Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract No. 2 G470 P)

Translation: The installation consists of a granulator body with cooler, filling device and transporter for removal of granulate. In order to produce a granulate with an even fractional composition, the upper portion of the granulator body over the cooler carries metal rods, washed by the cooler, and a powered blade drum beneath the pouring spout.

1/1

USSR UDC 576.858.75

RYBINS'KA, L. M., and YAKHNO, M. A., Kiev Scientific Research Institute of Infectious Diseases, Kiev

"Antigenic Properties of Parainfluenza Viruses Isolated in Kiev"

Kiev, Mikrobiologicheskiy Zhurnal, Vol 33, No 4, Jul/Aug 71, pp 473-477

Abstract: The antigenic properties of 11 strains of parainfluenza viruses types I and II isolated in Kiev during 1964-1969 were studied by using the hemagglutination inhibition reaction with immune rabbit sera. Three strains of type I isolated in 1968-1969 and four strains of type II isolated in 1966-1967 differed antigenically from prototype viruses and from strains isolated in Kiev in preceding years. The results were confirmed by tests conducted with sera of the All Union Center of Influenza and Respiratory Diseases which had been obtained by intranasal immunization of rats and with standard equine sera of the World Health Organization. The work was conducted to establish possible antigenic differences from viruses isolated in America.

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USSR

UDC 616.988.75-039

RYBINSKAYA, L. N., Kiev Scientific Research Institute of Infectious Diseases, Ministry of Health, Ukrainian SSR

"The Problem of Infecting People with Parainfluenza Viruses of the SV5-DA Group"

Moscow, Voprosy Virusologii, No 3, May/Jun 71, pp 308-312

Abstract: Viruses were isolated from patients with acute respiratory diseases and their antigenic properties were studied; also, the ability of SV5 viruses to infect man was studied and their role as stimulants of acute respiratory diseases was studied. The isolated viruses were compared with types 1, 2, and 3 parainfluenza viruses, NDV and SV5 viruses and parotitis virus. Immune sera and hemagglutinating antigens of parainfluenza viruses were obtained by intravenous immunization of rabbits. The three strains were used to infect kidney cultures of a human embryo. The two patients from whom the viruses had been isolated showed an 8 to 32-fold rise in antibody titers. Data collected from 594 patients with acute respiratory disease showed that in 3.2% of patients, antibody titers to SV5 group viruses were increased. Also, an increased antibody level for SV5 virus was observed with age, indicating possible circulation of SV5 virus among the population. This may be due to heterotypic

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RYBINSKAYA, L. N., Voprosy Virusologii, No 3, May/Jun 71, pp 308-312

reactions in connection with human infection by related viruses. The results of this study point to a possible etiological role of SV5 group viruses in human acute respiratory diseases.

2/2

USSR

UDC 576.858.4.085.23

MAKSIMOVICH, N. O., GILEVICH, Ye. V., VASINA, A. G., PERVACHENKO, S. V., and RYBINSKAYA, L. N., Kiev Scientific Research Institute of Infectious Diseases

"Changes in Cells Induced by Certain Parainfluenza Viruses"

Kiev, Mikrobiologicheskiy Zhurnal, Vol 32, No 4, Jul/Aug 70, pp 466-472

Abstract: The cytopathic effects of types I, II, and III parainfluenza viruses on primary trypsinized monkey kidney cultures were studied. Enlargement of the nuclei and nucleoli, accumulation of RNA protein in the nucleoli and cytoplasm, disintegration of the chromatin and further changes in the shape of the nucleus, and formation of symplasm (varying according to the infectious dose of virus per cell) were observed. Eosinophilic inclusions in the cytoplasm were common but are not specific to viral infection of cells, since they appear in noninfected cultures as well. Immunofluorescence revealed the presence of viral antigen in the infected cells only during the first 3 days following inoculation. In 1- and 2-day- old mice, the epithelial cells of the respiratory tract showed marked proliferation, desquamation, and formation of cells with 3 and 4 nuclei. The perinuclear part of the cytoplasm fluoresced during the first 3 days after infection. The prolonged survival of the culture after infection

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MAKSIMOVICH, N. O., et al, Mikrobiologicheskiy Zhurnal, Vol 32, No 4, Jul/Aug 70, pp 466-472

was evidence of the weak cytotoxic effect of the parainfluenza viruses. This phenomenon was most pronounced in the symplasm, causing it to decrease and then disappear within 4 days.

2/2

Organometallic Compounds

USSR

UDC 548.737

KUZ'MINA, L. G., BOKIY, N. G., STRUCHKOV, YU. T., ARUTYUNYAN, A. V., RYBIN, L. V., and RYBINSKAYA, M. I., Institute of Metalorganic Compounds, Academy of Sciences USSR

"Structure of 3,6-Duphenylpyridazino-diferrun-triphenylphosphine-pentacarbonyl"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 5, Sep-Oct 71, pp 875-882

Abstract: To determine objectively the structure of diarylpyridazine complexes with iron carbonyls, a complete roentgenographic analysis of the monophosphine complex $[(C_6H_5)_2C_4H_2N_1] \cdot [Fe_2P(C_6H_5)_3(CO)_5]$ was carried out. The binuclear molecule contains $Fe(CO)_3$ and $Fe(CO)_2PPh_3$ groups connected with a Fe-Fe bond and two nitrogen bridge atoms of the pyridazine moiety. Fe atoms are of the octahedral coordination, they are highly strained due to the formation of tetrahedral cluster system Fe_2N_2. The crystals are monoclinic with a= 23.98, b = 18.34, c= 8.39 Å $\beta = 107^{\circ}20'$, and and $N = 4$. The structure was obtained by the heavy atom method and refined by the least squares method to R = 12%. The pyridine ring acts as a diazo-bridge between two iron atoms also connected by the metal- metal bond. The most interesting bond lengths are: Fe-Fe = 2.53; N-N = 1.43; Fe-N = 1.92 Å. 1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SYNTHESIS OF OXOVINYL MERCURY DERIVATIVES -U-

AUTHOR-(03)-NESMEYANOV, A.N., RYBINSKAYA, M.I., POPOVA, T.V.

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